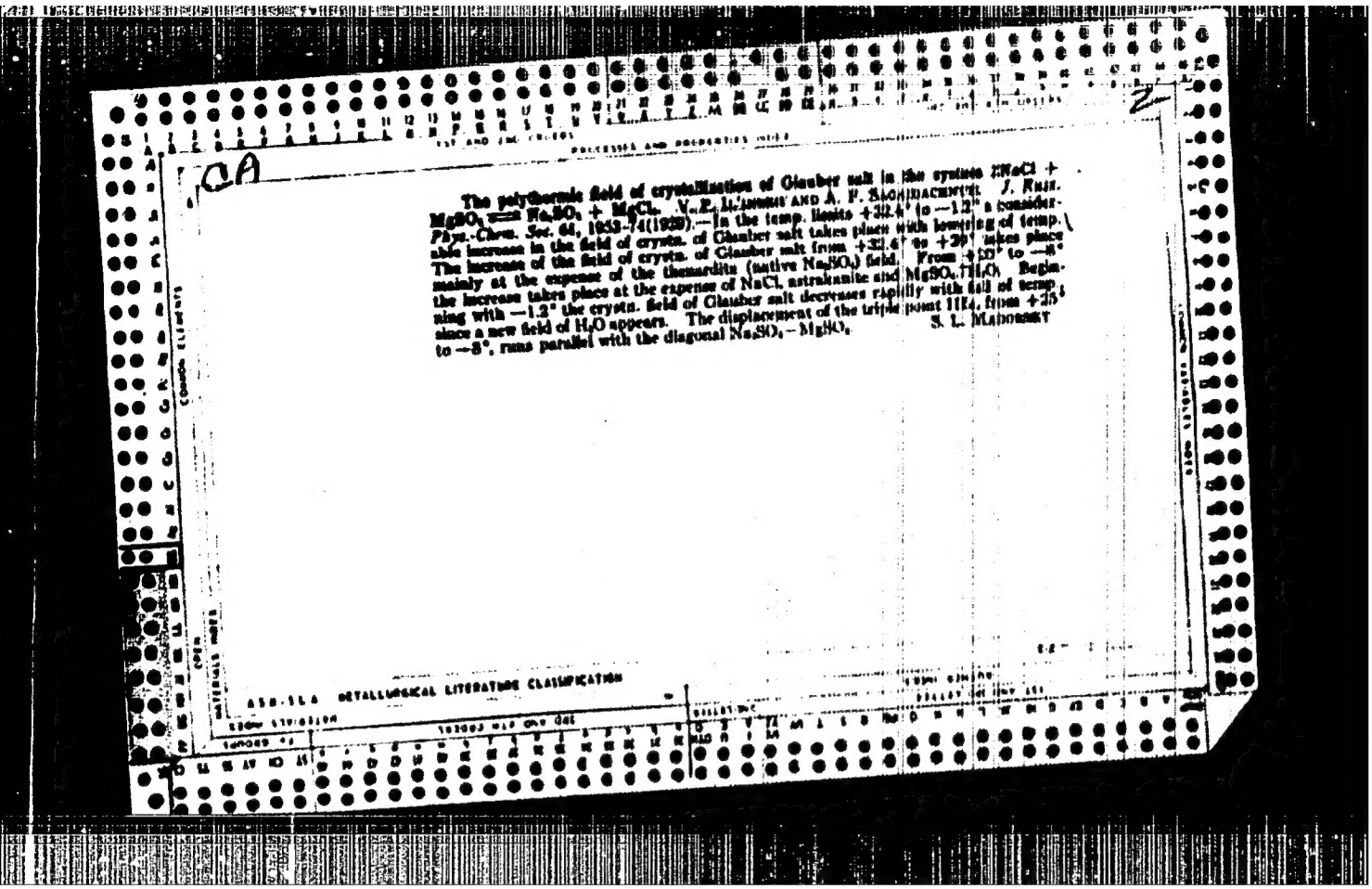
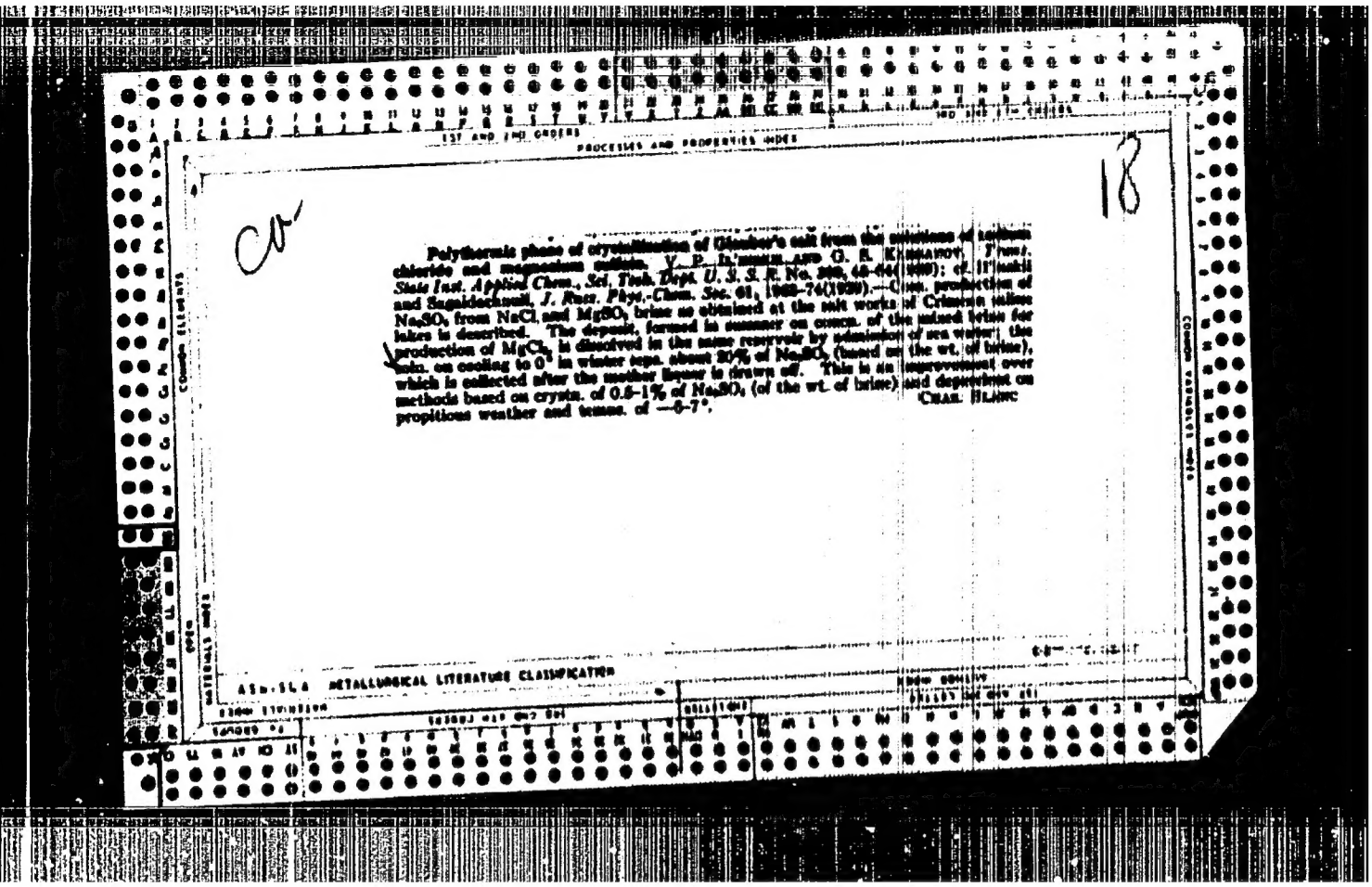


CA

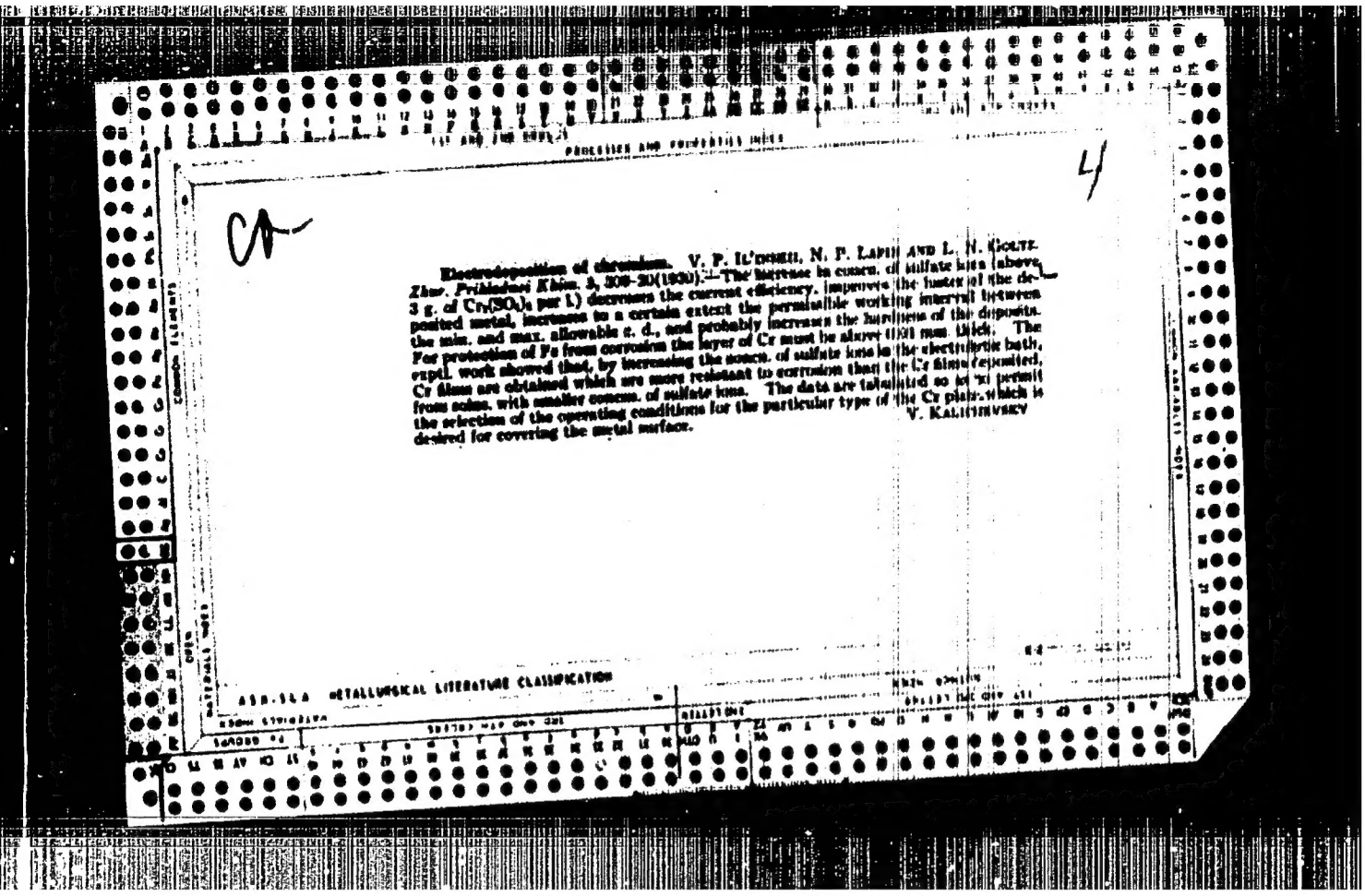
The polythermic field of crystallization of Glauber salt in the system $2NaCl + MgSO_4 \rightleftharpoons Na_2SO_4 + MgCl_2$. V. P. Lukanin and A. F. Solomachenko. *J. Russ. Phys.-Chem. Soc.* 61, 1953-74(1929).—In the temp. limits +32.4° to −1.2° a considerable increase in the field of crystn. of Glauber salt takes place with lowering of temp. The increase of the field of crystn. of Glauber salt from +32.4° to +20° takes place mainly at the expense of the thenardite (native Na_2SO_4) field. From +20° to −8° the increase takes place at the expense of NaCl, astrakanite and $MgSO_4 \cdot 7H_2O$. Beginning with −1.2° the crystn. field of Glauber salt decreases rapidly with fall of temp., since a new field of H_2O appears. The displacement of the triple point IIE, from +25° to −8°, runs parallel with the diagonal Na_2SO_4–$MgSO_4$. S. L. Malowan

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Polythermic phase of crystallization of Glauber's salt from the solutions of sodium chloride and magnesium sulfate. V. P. Il'inskii and G. K. Kramarov. *Trans. State Inst. Applied Chem., Sci. Tech. Dept. U. S. S. R.* No. 2(9), 45-64(1930); cf. Il'inskii and Sagaidachnaia, *J. Russ. Phys.-Chem. Soc.* 61, 1963-74(1929).—Comm. production of Na_2SO_4 from NaCl and $MgSO_4$ brine as obtained at the salt works of Crimean saline lakes is described. The deposit, formed in summer on cooling of the mixed brine for production of $MgCl_2$ is dissolved in the same reservoir by admixture of sea water; the mixt. on cooling to 0° in winter separ. about 20% of Na_2SO_4 (based on the wt. of brine), which is collected after the mother liquor is drawn off. This is an improvement over methods based on crystn. of 0.8-1% of Na_2SO_4 (of the wt. of brine) and dependent on propitious weather and temps. of —5-7°.

CHEM. ENGNG



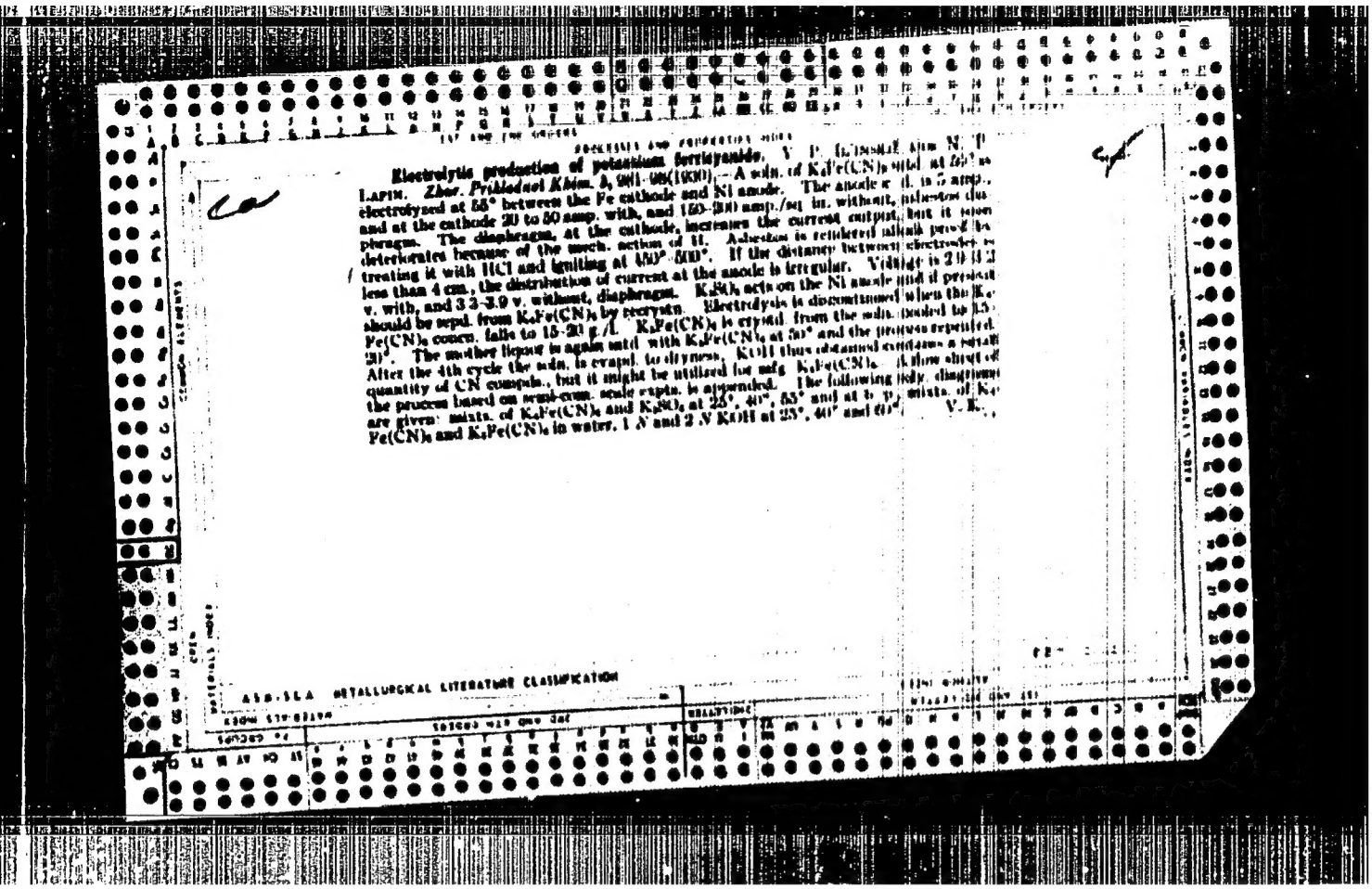
Cr

4

Electrodeposition of chromium. V. P. IL'INSKII, N. P. LAPII AND L. N. KOLTE-Zhur. Prikladnoi Khim. 3, 309-20(1930).—The increase in concn. of sulfate ions (above 3 g. of $Cr_2(SO_4)_3$ per l.) decreases the current efficiency, improves the luster of the deposited metal, increases to a certain extent the permissible working interval between the min. and max. allowable c. d., and probably increases the hardness of the deposits. For protection of Fe from corrosion the layer of Cr must be above 0.01 mm. thick. The exptl. work showed that, by increasing the concn. of sulfate ions in the electrolytic bath, Cr films are obtained which are more resistant to corrosion than the Cr films deposited from solns. with smaller concns. of sulfate ions. The data are tabulated so as to permit the selection of the operating conditions for the particular type of the Cr plate which is desired for covering the metal surface.

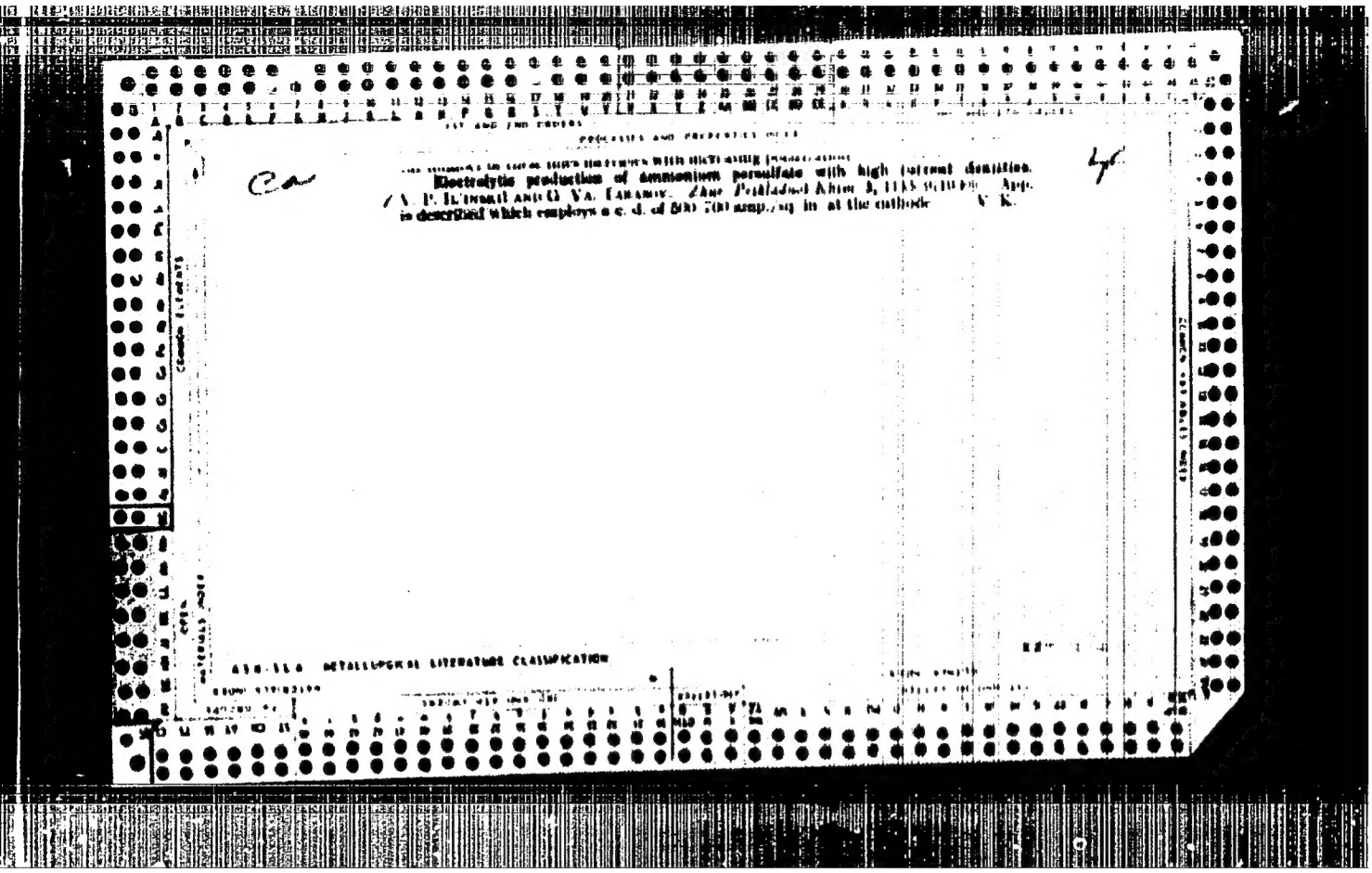
V. KALITINSKY

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

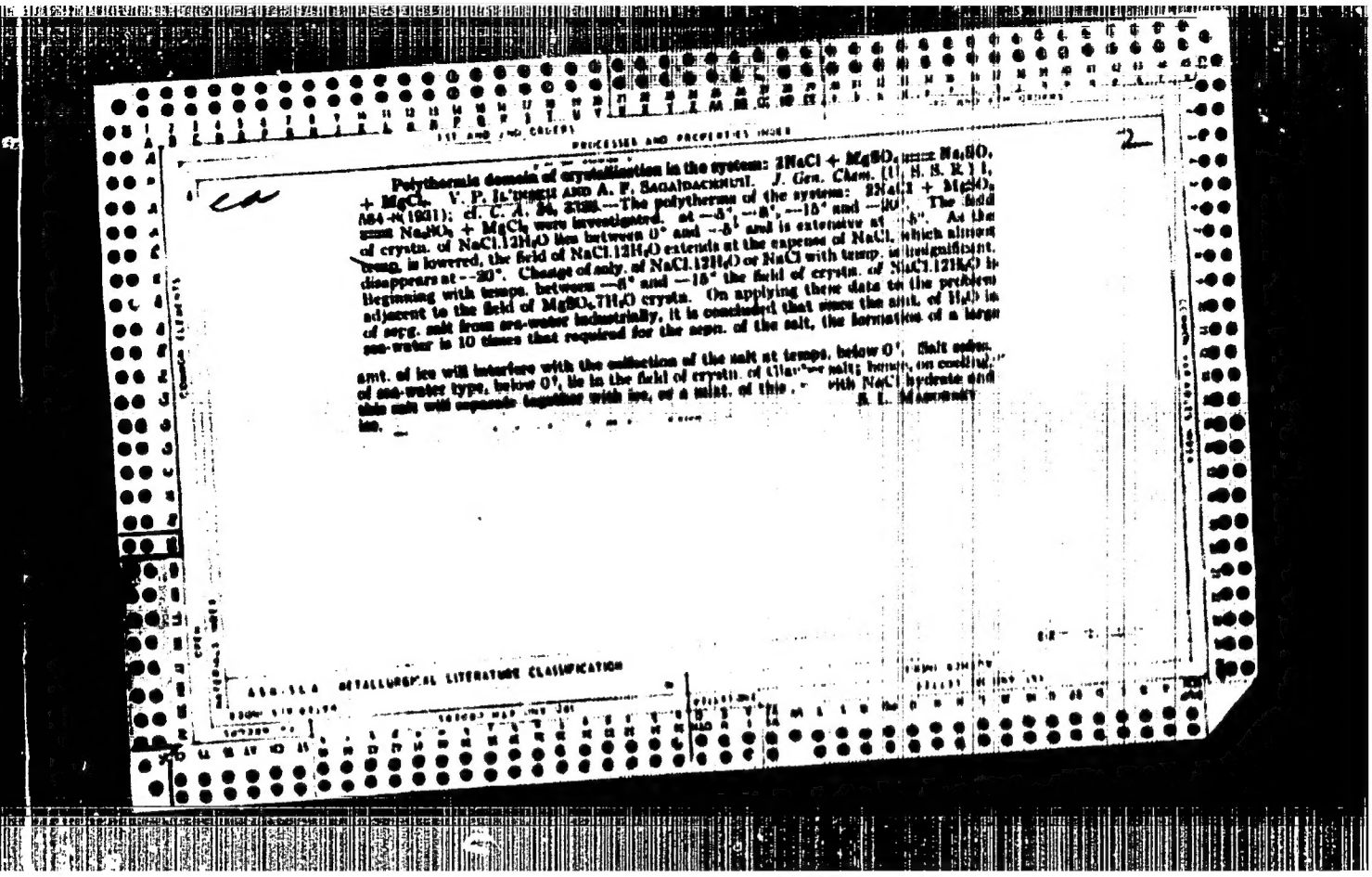


Electrolytic production of potassium ferricyanide. V. P. [illegible] Am N. [illegible]
LAPIN. *Zhur. Prikladnoi Khim.* 3, 981–98(1930).—A soln. of $K_4Fe(CN)_6$ was [illegible] at 50° in
electrolyzed at 55° between the Fe cathode and Ni anode. The anode c. d. is 5 amp.,
and at the cathode 20 to 30 amp. with, and 150–200 amp./sq. in. without, siliceous dia-
phragm. The diaphragm, at the cathode, increases the current output, but it soon
deteriorates because of the mech. action of H. Asbestos is rendered alkali proof by
treating it with HCl and igniting at 450°–500°. If the distance between electrodes is
less than 4 cm., the distribution of current at the anode is irregular. Voltage is 2.9–3.2
v. with, and 3.3–3.9 v. without, diaphragm. K_2SO_4 acts on the Ni anode and if present
should be sepd. from $K_4Fe(CN)_6$ by recrystn. Electrolysis is discontinued when the K_4-
$Fe(CN)_6$ concn. falls to 15–20 g./l. $K_3Fe(CN)_6$ is crystd. from the soln. cooled to 15–
20°. The mother liquor is again satd. with $K_4Fe(CN)_6$ at 50° and the process repetitd.
After the 4th cycle the soln. is evapd. to dryness, KOH thus obtained contains a small
quantity of CN compds., but it might be utilized for mfg. $K_4Fe(CN)_6$. A flow sheet of
the process based on semi-com. scale expts. is appended. The following eq. diagrams
are given: mixts. of $K_4Fe(CN)_6$ and K_2SO_4 at 25°, 40°, 55° and at 5 [illegible] mixts. of K_4-
$Fe(CN)_6$ and $K_3Fe(CN)_6$ in water, 1 *N* and 2 *N* KOH at 25°, 40° and 60°. V. K.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

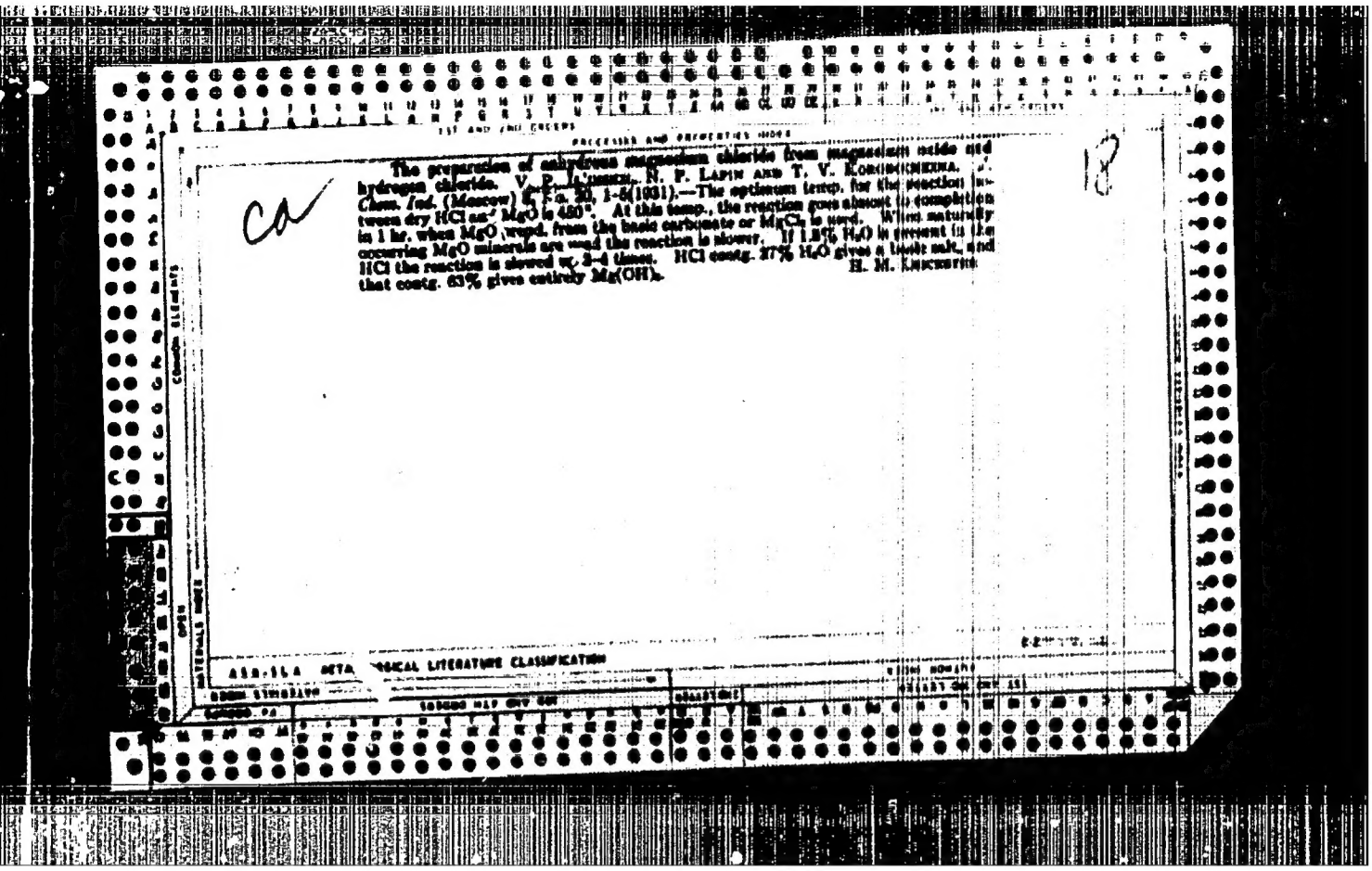


Electrolytic production of ammonium persulfate with high current densities.
is described which employs a c. d. of 500-700 amp./sq. in. at the cathode

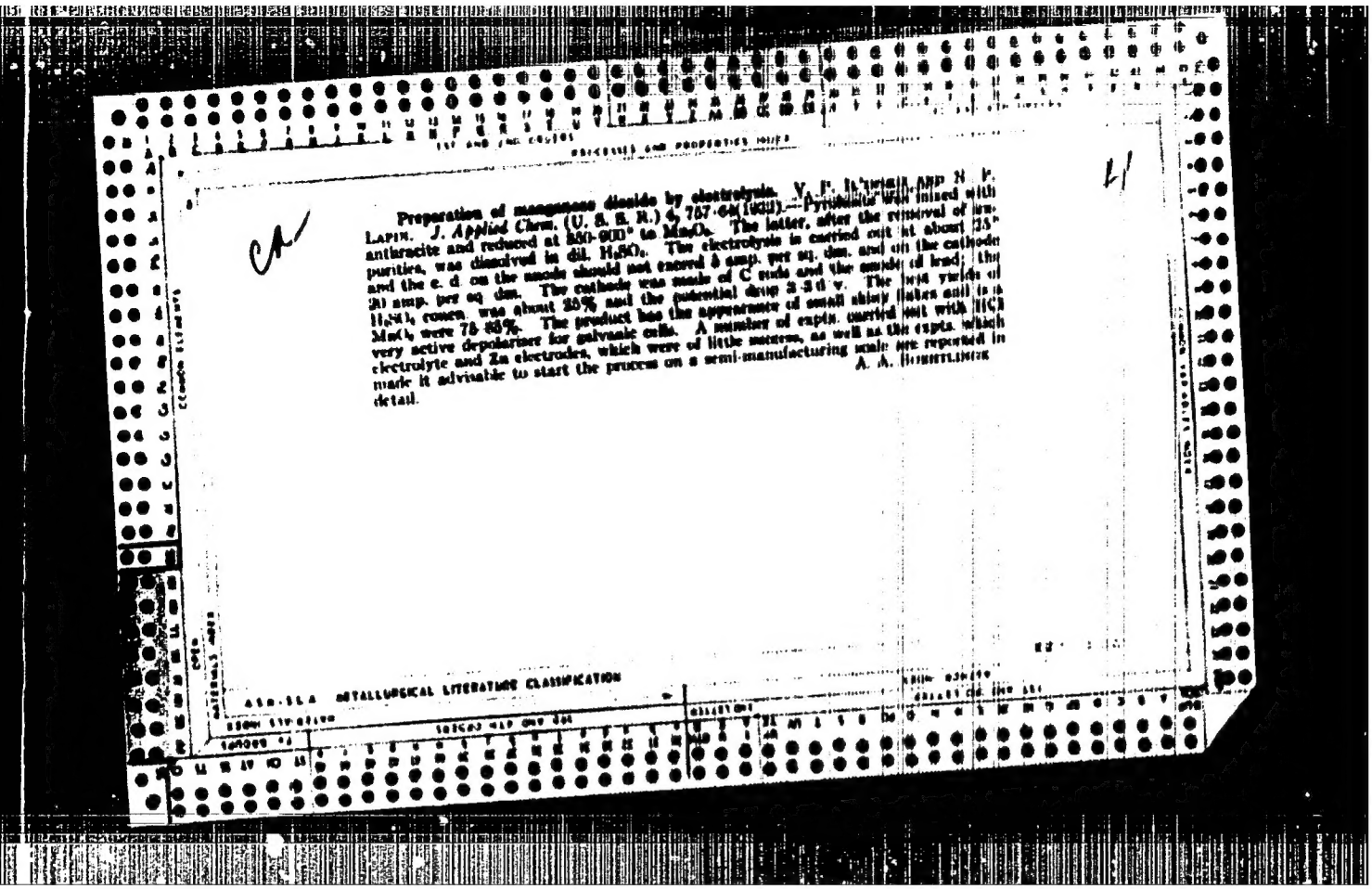


Polythermic domain of crystallization in the system: 2NaCl + $MgSO_4$ ⇌ Na_2SO_4 + $MgCl_2$. V. P. Il'inskii and A. F. Sagaidachnyi. *J. Gen. Chem.* [U. S. S. R.] 1, 484–8 (1931); cf. *C. A.* 24, 2128.—The polytherms of the systems: 2NaCl + $MgSO_4$ ⇌ Na_2SO_4 + $MgCl_2$ were investigated. at −5°, −8°, −15° and −30°. The field of crysts. of $NaCl.12H_2O$ lies between 0° and −5° and is extensive at −5°. As the temp. is lowered, the field of $NaCl.12H_2O$ extends at the expense of NaCl, which almost disappears at −30°. Change of anhy. of $NaCl.12H_2O$ or NaCl with temp. is insignificant. Beginning with temps. between −8° and −15° the field of crysts. of $NaCl.12H_2O$ is adjacent to the field of $MgSO_4.7H_2O$ crysts. On applying these data to the problem of segg. salt from sea-water industrially, it is concluded that since the amt. of H_2O in sea-water is 10 times that required for the segn. of the salt, the formation of a large amt. of ice with interfere with the collection of the salt at temps. below 0°. Salt subs. of sea-water type, below 0°, lie in the field of crysts. of Glauber salt; hence, on cooling, this salt will separate together with ice, or a mixt. of this with NaCl hydrate and ice.

B. L. Metzger

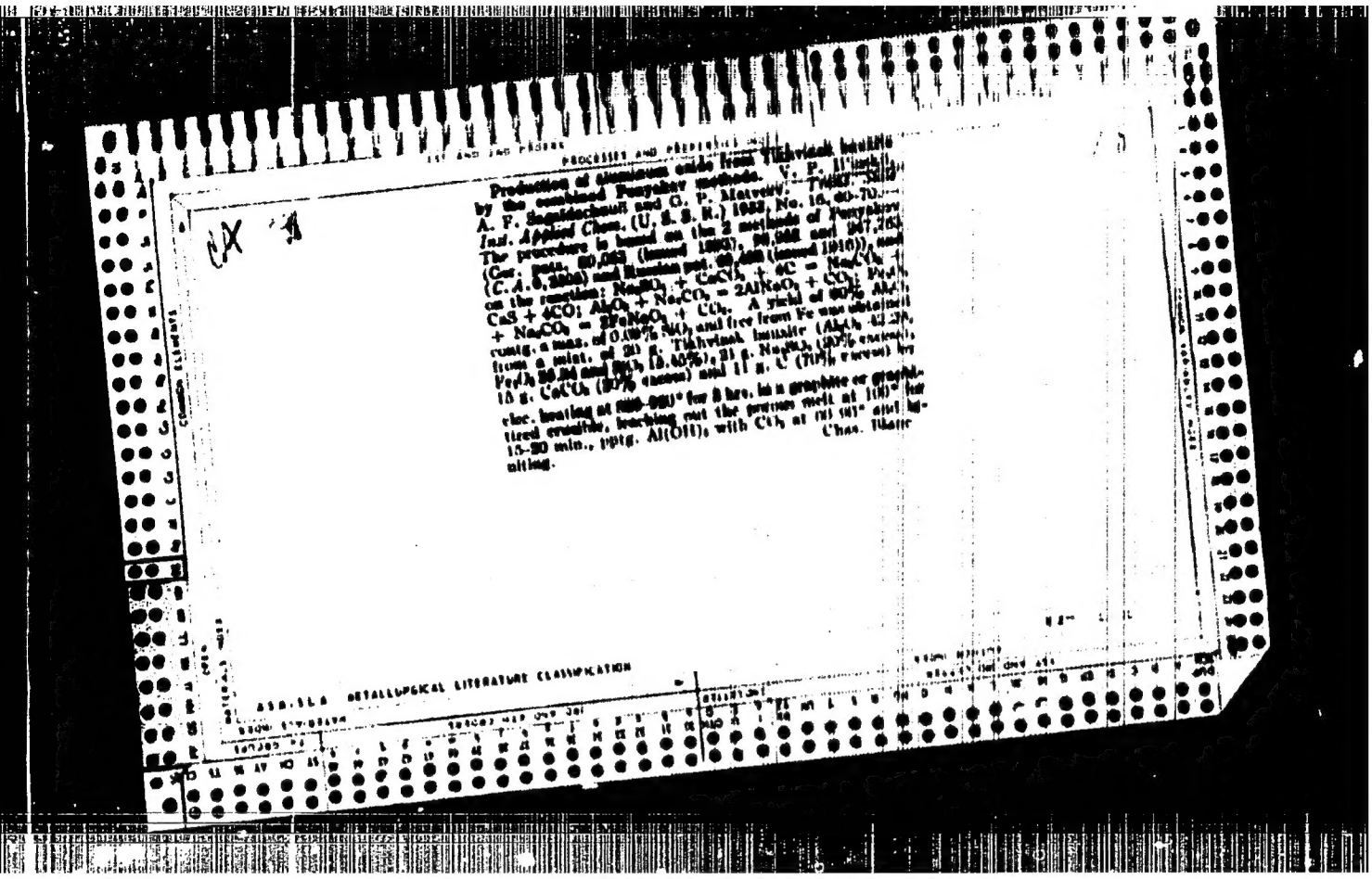


The preparation of anhydrous magnesium chloride from magnesium oxide and hydrogen chloride. V. P. Ivanov, N. F. Lapin and T. V. Kondrikhina. *Zhur. Prikl. Khim. (Moscow)* 4, No. 1-2, 1-8(1931).—The optimum temp. for the reaction between dry HCl and MgO is 450°. At this temp., the reaction goes almost to completion in 1 hr. when MgO prepd. from the basic carbonate or $MgCl_2$ is used. When naturally occurring MgO minerals are used the reaction is slower. If 1.3% H_2O is present in the HCl the reaction is slowed up 3-4 times. HCl contg. 37% H_2O gives a basic salt, and that contg. 63% gives entirely $Mg(OH)_2$. H. M. Leicester



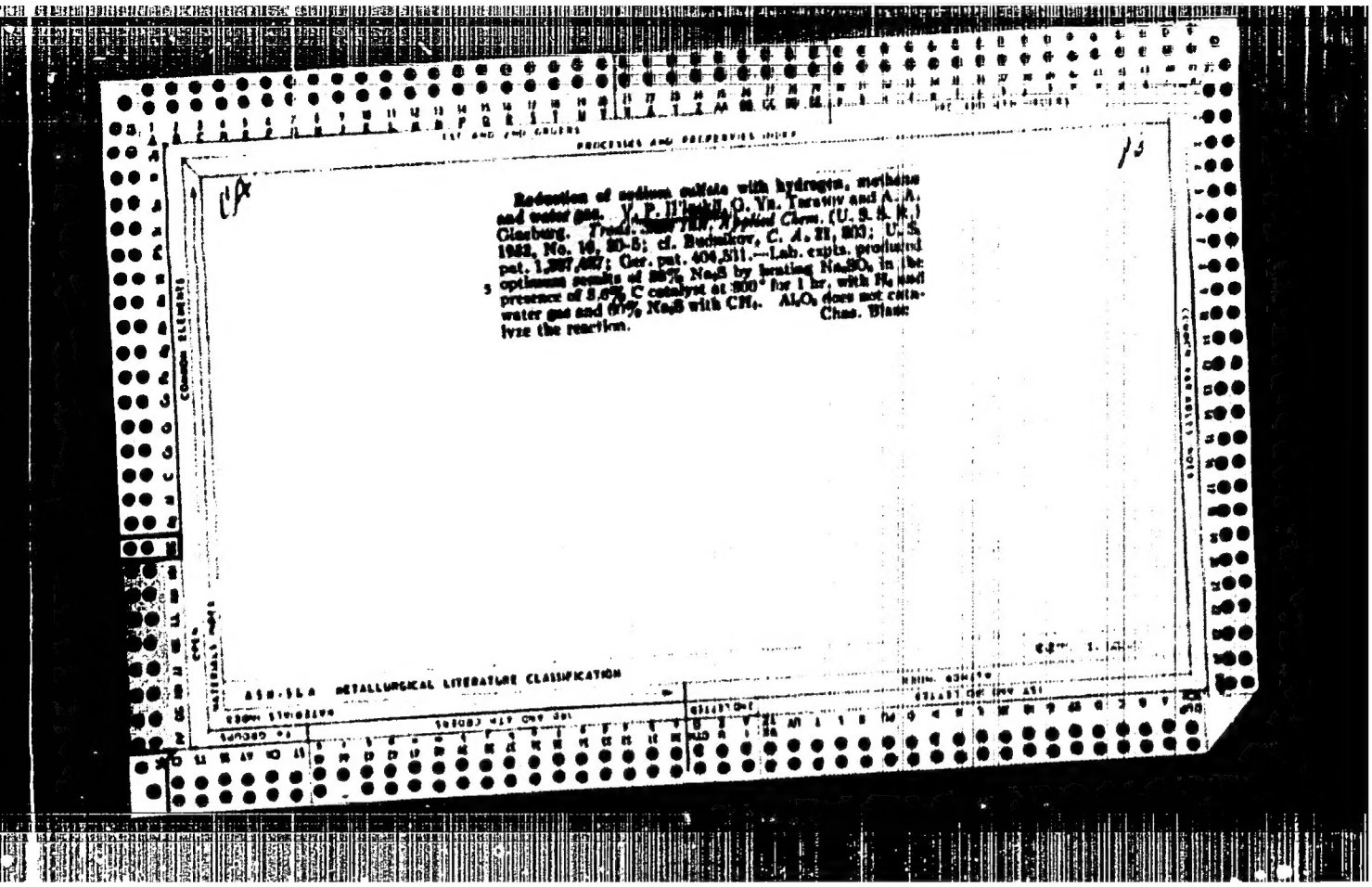
Preparation of manganese dioxide by electrolysis. V. F. Lapin. *J. Applied Chem.* (U. S. S. R.) 4, 757-64 (1931).—Pyrolusite was mixed with anthracite and reduced at 850-900° to MnO. The latter, after the removal of impurities, was dissolved in dil. H_2SO_4. The electrolysis is carried out at about 25° and the c. d. on the anode should not exceed 5 amp. per sq. dm. and on the cathode 20 amp. per sq. dm. The cathode was made of C rods and the anode of lead; the H_2SO_4 concn. was about 25% and the potential drop 2-3 v. The best yields of MnO_2 were 75-85%. The product has the appearance of small shiny flakes and is a very active depolarizer for galvanic cells. A number of expts. carried out with HCl electrolyte and Zn electrodes, which were of little success, as well as the expts. which made it advisable to start the process on a semi-manufacturing scale are reported in detail.

A. A. Grinberg



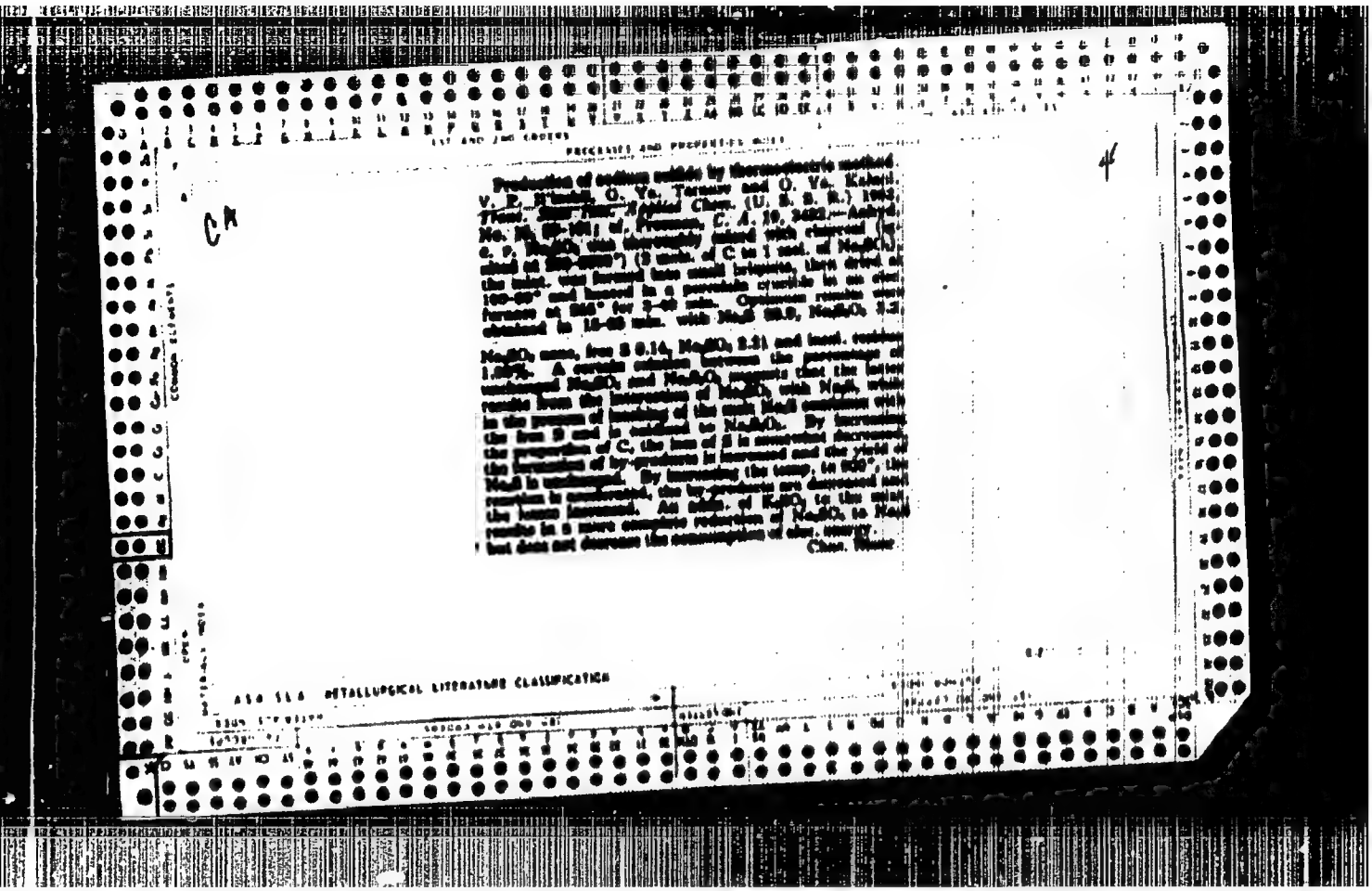
Production of aluminum oxide from Tikhvinsk bauxite by the combined Pamphlov methods. V. P. Il'inskii, A. F. Shapidzhanov and G. P. Matveev. *Trudy Inst. Applied Chem.* (U. S. S. R.) 1932, No. 16, 60-70. The procedure is based on the 2 methods of Pamphlov (Ger. pats. 60,083 (issued 1893), 90,688 and 147,765 (*C. A.* 0, 3334) and Russian pat. 69,488 (issued 1910)), and on the reactions: $Na_2SO_4 + CaCl_2 + 4C = Na_2Cl_2 + CaS + 4CO$; $Al_2O_3 + Na_2CO_3 = 2NaAlO_2 + CO_2$. A yield of 80% Al_2O_3 + Na_2CO_3 = $2NaAlO_2$ + CO_2. A yield of 80% Al_2O_3 running a max. of 0.03% SiO_2 and free from Fe was obtained from a mixt. of 20 g. Tikhvinsk bauxite (Al_2O_3 42.2%, Fe_2O_3 20.24 and SiO_2 15.40%), 21 g. Na_2SO_4 (97% content), 10 g. $CaCl_2$ (97% content) and 11 g. C (71% content) by elec. heating at 900-950° for 3 hrs. in a graphite or graphitized crucible, leaching out the product melt at 110° for 15-20 min., ppig. $Al(OH)_3$ with CO_2 at 70-80° and letting.

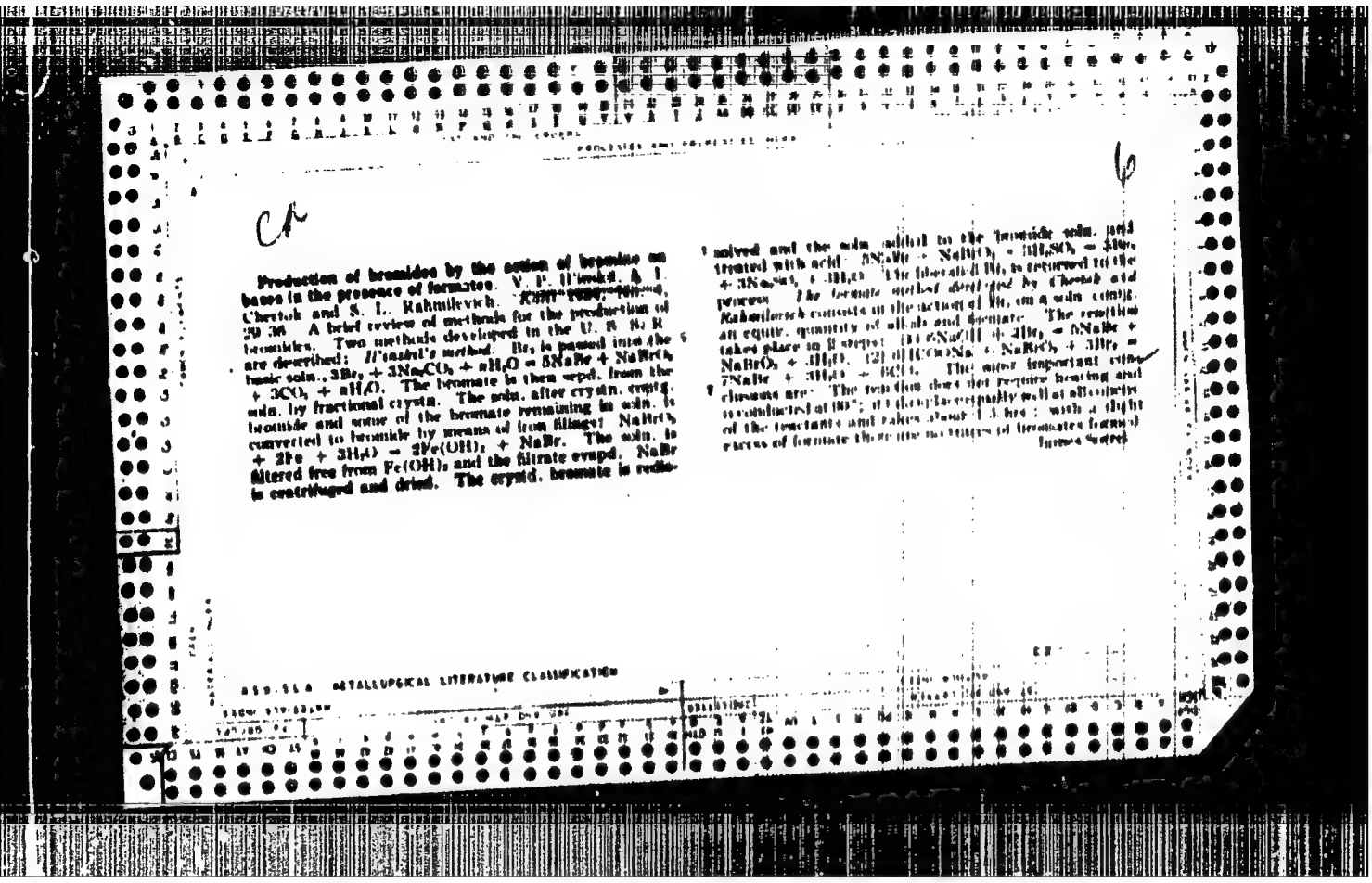
Chas. Tilsley



Reduction of sodium sulfate with hydrogen, methane and water gas. Ya. P. Il'inskii, O. Yu. Tarasov and A. A. Glazberg. *Trudy Vsesoyuz. Nauch. Issledovatel. Inst. Prikladnoi Khim.* (U. S. S. R.) 1932, No. 10, 80-5; cf. Bachnikov, *C. A.* 21, 893; U. S. pat. 1,397,467; Ger. pat. 406,511.—Lab. expts. produced optimum results of 80% Na_2S by heating Na_2SO_4 in the presence of 5.6% C catalyst at 800° for 1 hr. with H_2 and water gas and 97% Na_2S with CH_4. Al_2O_3 does not catalyze the reaction. Chas. Blanc

A59-51A METALLURGICAL LITERATURE CLASSIFICATION

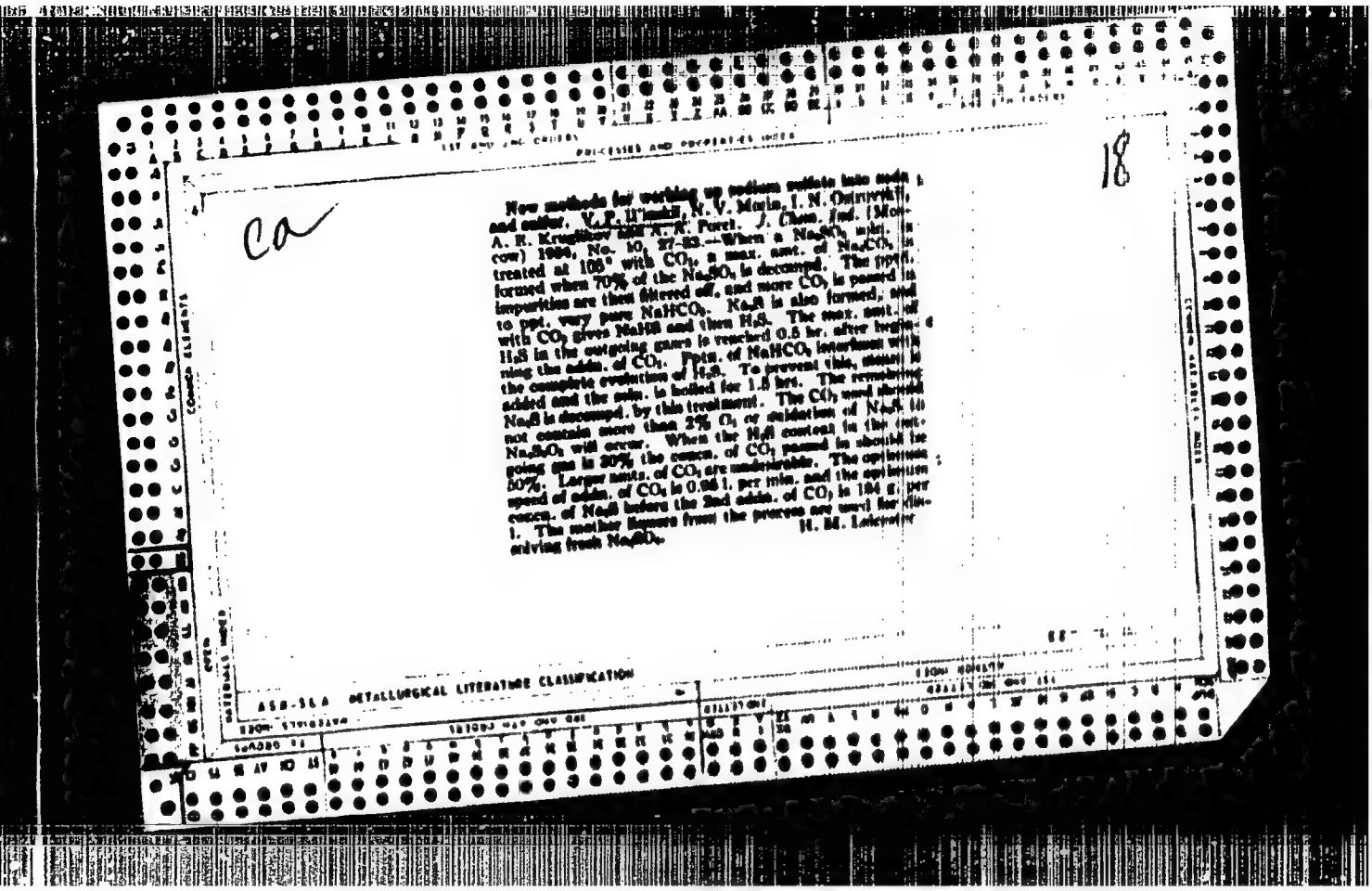




CA

Production of bromides by the action of bromine on bases in the presence of formates. V. P. Il'inskii, A. I. Chertok and S. L. Rakhmilevich. Zhur. Prikl. Khim., 29 36 A brief review of methods for the production of bromides. Two methods developed in the U. S. S. R. are described: *Il'inskii's method*: Br₂ is passed into the basic soln., $3Br_2 + 3Na_2CO_3 + nH_2O = 5NaBr + NaBrO_3 + 3CO_2 + nH_2O$. The bromate is then reduced, from the soln. by fractional crystn. The soln. after crystn. evapd. to dryness and ignited. The bromide and some of the bromate remaining in soln. is converted to bromide by means of iron filings: $NaBrO_3 + 2Fe + 3H_2O = 2Fe(OH)_3 + NaBr$. The soln. is filtered free from $Fe(OH)_3$ and the filtrate evapd. NaBr in centrifuged and dried. The crystd. bromate is redis-

solved and the soln added to the bromide soln. and treated with acid: $5NaBr + NaBrO_3 + 3H_2SO_4 = 3Br_2 + 3Na_2SO_4 + 3H_2O$. The liberated Br₂ is returned to the process. *The bromate method developed by Chertok and Rakhmilevich* consists in the action of Br₂ on a soln. containing an equiv. quantity of alkali and formate. The reaction takes place in 2 steps: (1) $6NaOH + 3Br_2 = 5NaBr + NaBrO_3 + 3H_2O$. (2) $6HCOONa + NaBrO_3 + 3Br_2 = 7NaBr + 3H_2O + 6CO_2$. The other important reactions are: The reaction does not require heating and is conducted at 80°; it proceeds equally well at all concns of the reactants and takes about 1 hr.; with a slight excess of formate there are no traces of bromates formed



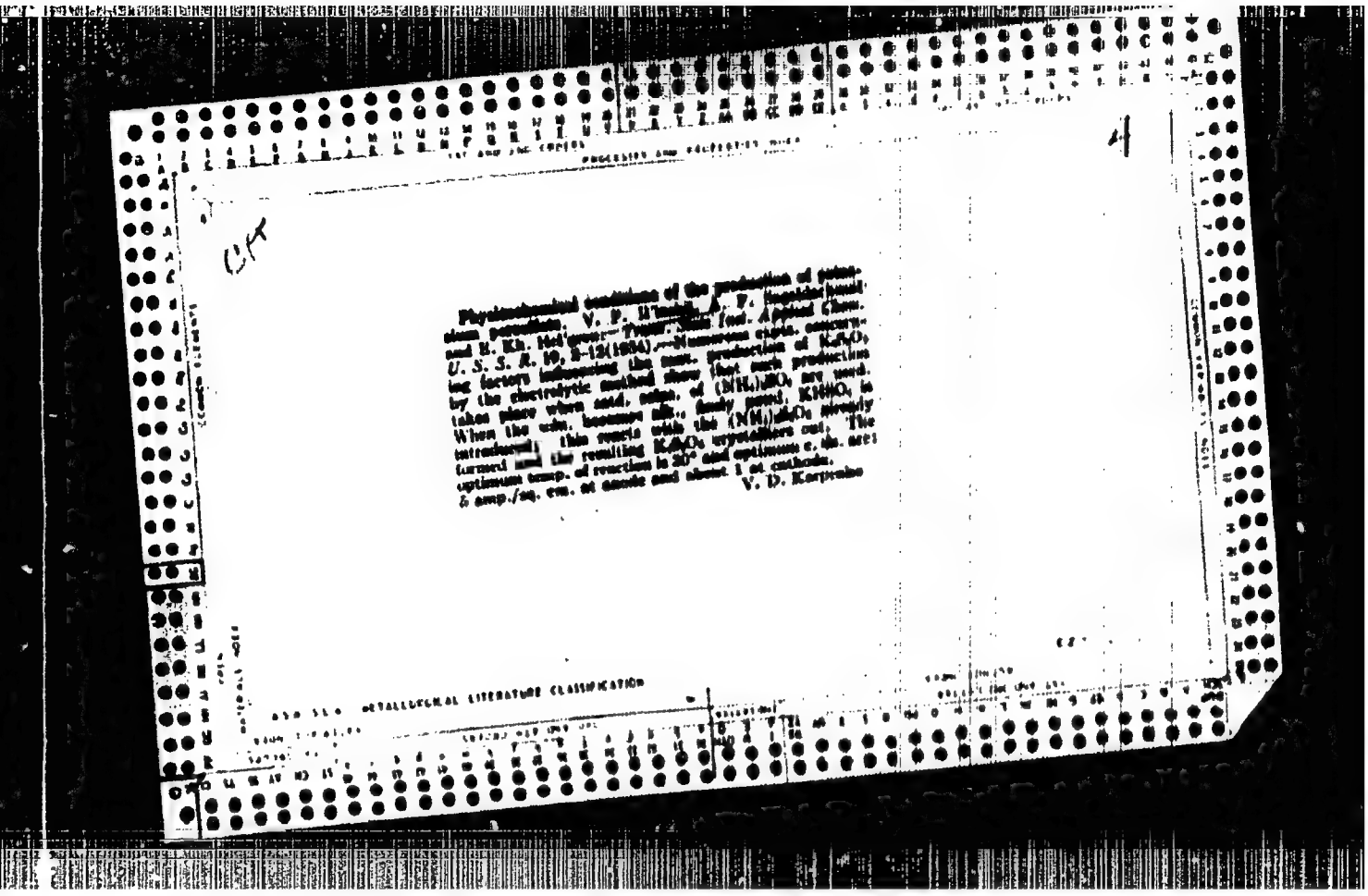
Ca

18

New methods for working up sodium sulfate into soda and sulfur. V. P. Ilyinskii, K. V. Mavlo, I. N. Ostrovskii, A. R. Kruglikov and N. K. Furri. *J. Chem. Ind.* (Moscow) 1934, No. 10, 27-33.—When a Na_2SO_4 soln. is treated at 108° with CO_2, a max. amt. of Na_2CO_3 is formed when 70% of the Na_2SO_4 is decompd. The impurities are then filtered off, and more CO_2 is passed in to ppt. very pure $NaHCO_3$. NaSH is also formed, and with CO_2 gives NaHS and then H_2S. The max. amt. of H_2S in the outgoing gases is reached 0.5 hr. after beginning the addn. of CO_2. Ppts. of $NaHCO_3$ interfere with the complete evolution of H_2S. To prevent this, steam is added and the soln. is boiled for 1.5 hrs. The remaining NaSH is decompd. by this treatment. The CO_2 used should not contain more than 2% O_2 or oxidation of NaSH to $Na_2S_2O_3$ will occur. When the H_2S content in the outgoing gas is 20% the concn. of CO_2 passed in should be 50%. Larger amts. of CO_2 are undesirable. The optimum speed of addn. of CO_2 is 0.98 l. per min. and the optimum concn. of NaSH before the 2nd addn. of CO_2 is 194 g. per l. The mother liquors from the process are used for dissolving fresh Na_2SO_4.

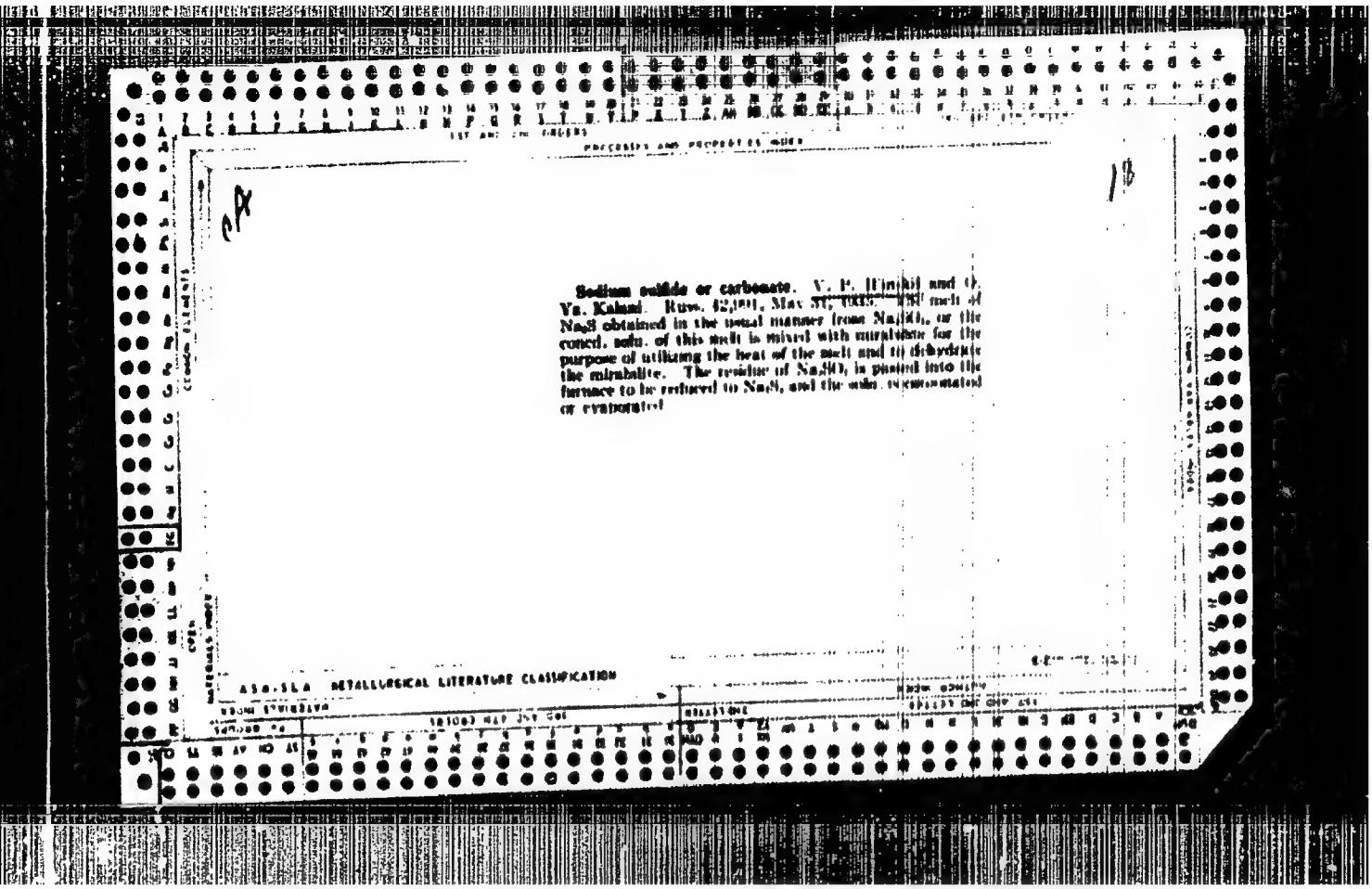
H. M. Leicester

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION



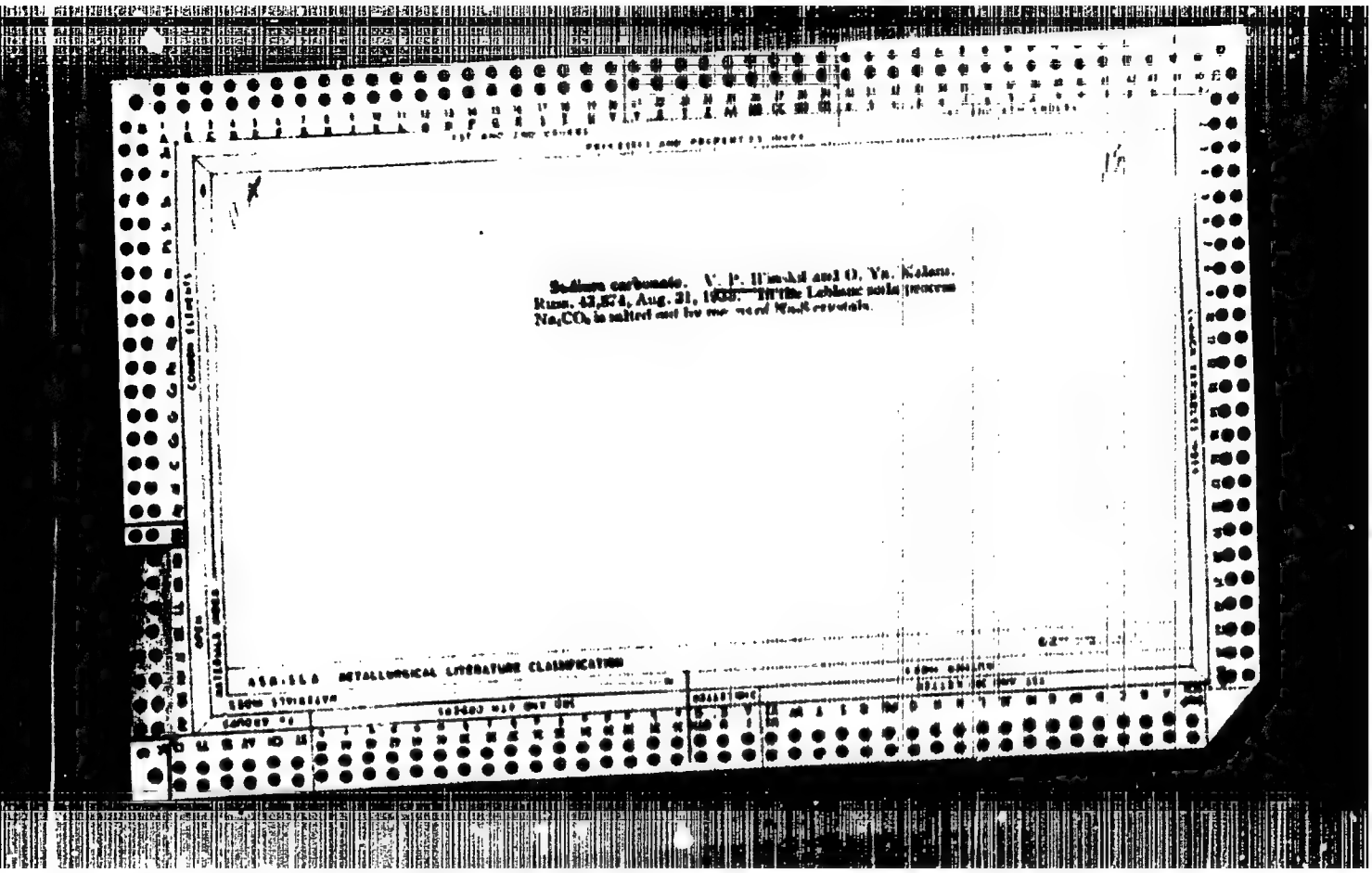
Physicochemical conditions of the production of potassium persulfate. V. P. Ilinskii, A. V. Ingenieinikova and R. Kh. Mel'gunov. Trudy Inst. Prikl. Khimii, U. S. S. R. 10, 3-12(1934).—Numerous chem. concerning factors influencing the econ. production of $K_2S_2O_8$ by the electrolytic method show that such production takes place when anod. oxidn. of $(NH_4)HSO_4$ are used. When the solns. become alk., finely powd. $KHSO_4$ is introduced, this reacts with the $(NH_4)_2S_2O_8$ already formed and the resulting $K_2S_2O_8$ crystallizes out. The optimum temp. of reaction is 20° and optimum c. d. are 2 amp./sq. cm. at anode and about 1 at cathode.

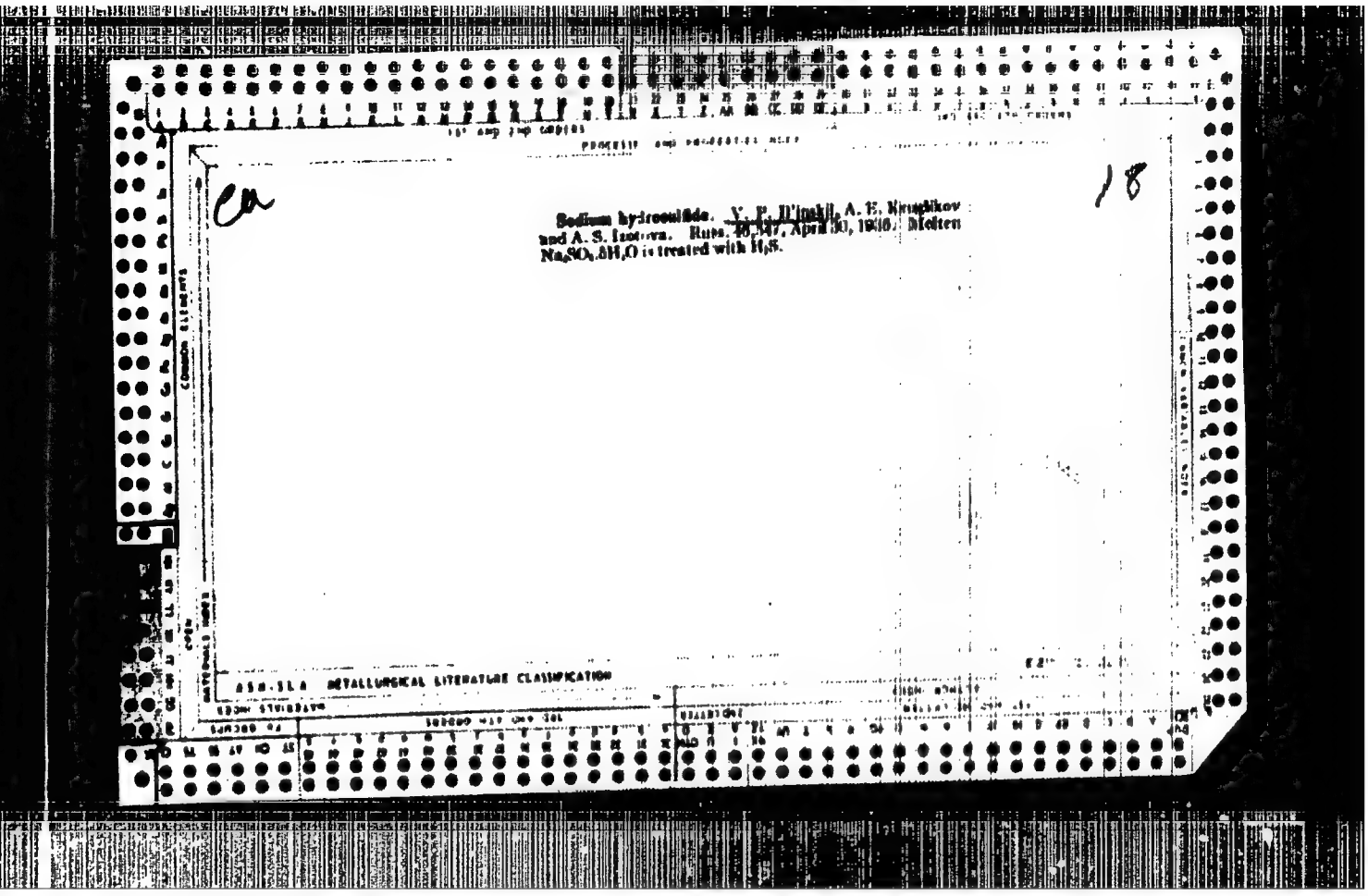
V. D. Karpenko

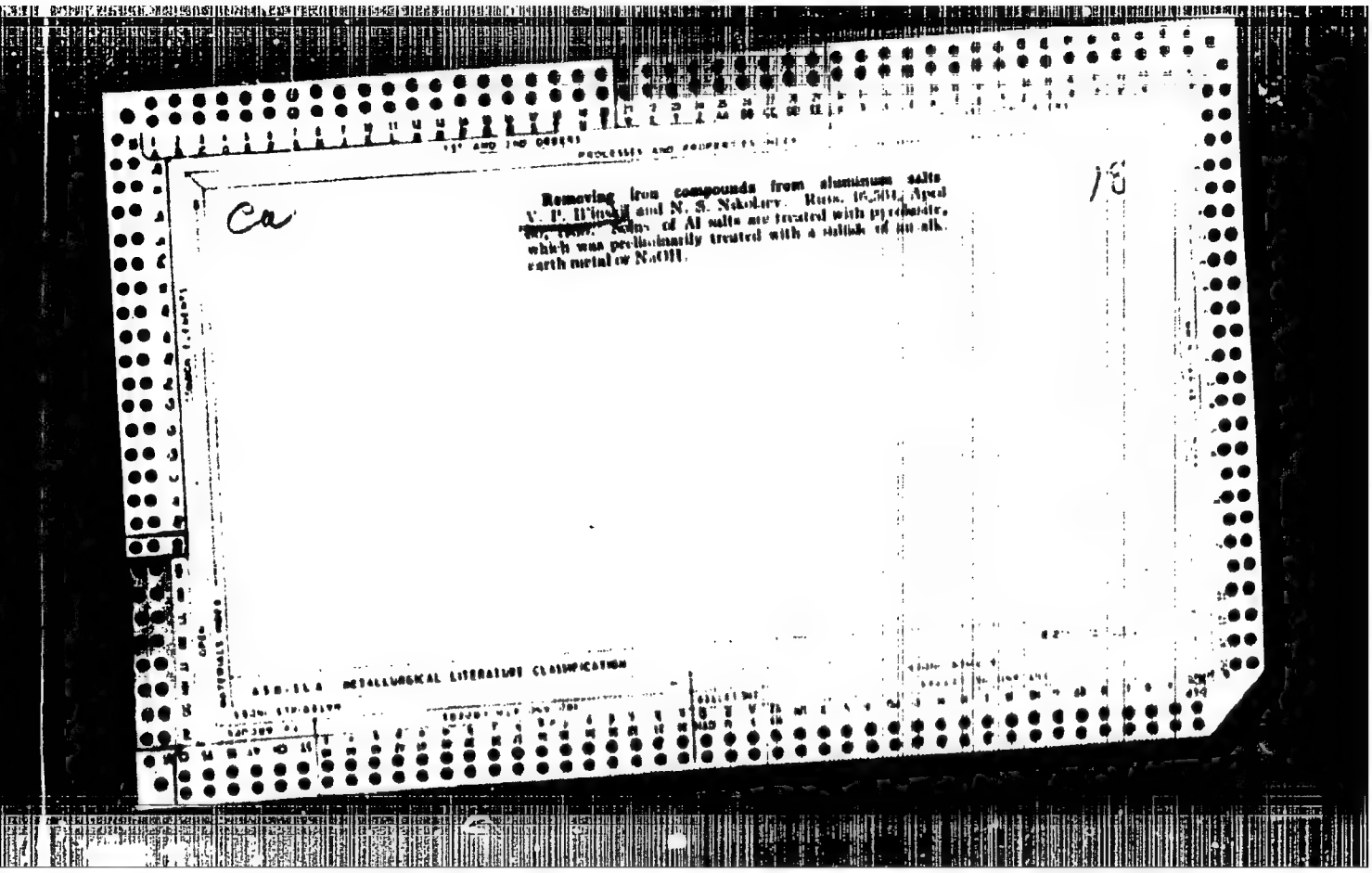


Sodium sulfide or carbonate. V. P. Il'inskii and O. Ya. Kahani. Russ. 42,901, May 31, 1955. The melt of Na_2S obtained in the usual manner from Na_2SO_4, or the concd. soln. of this melt is mixed with mirabilite for the purpose of utilizing the heat of the melt and of dehydrating the mirabilite. The residue of Na_2SO_4 is passed into the furnace to be reduced to Na_2S, and the soln. is concentrated or evaporated.

ASTIA METALLURGICAL LITERATURE CLASSIFICATION



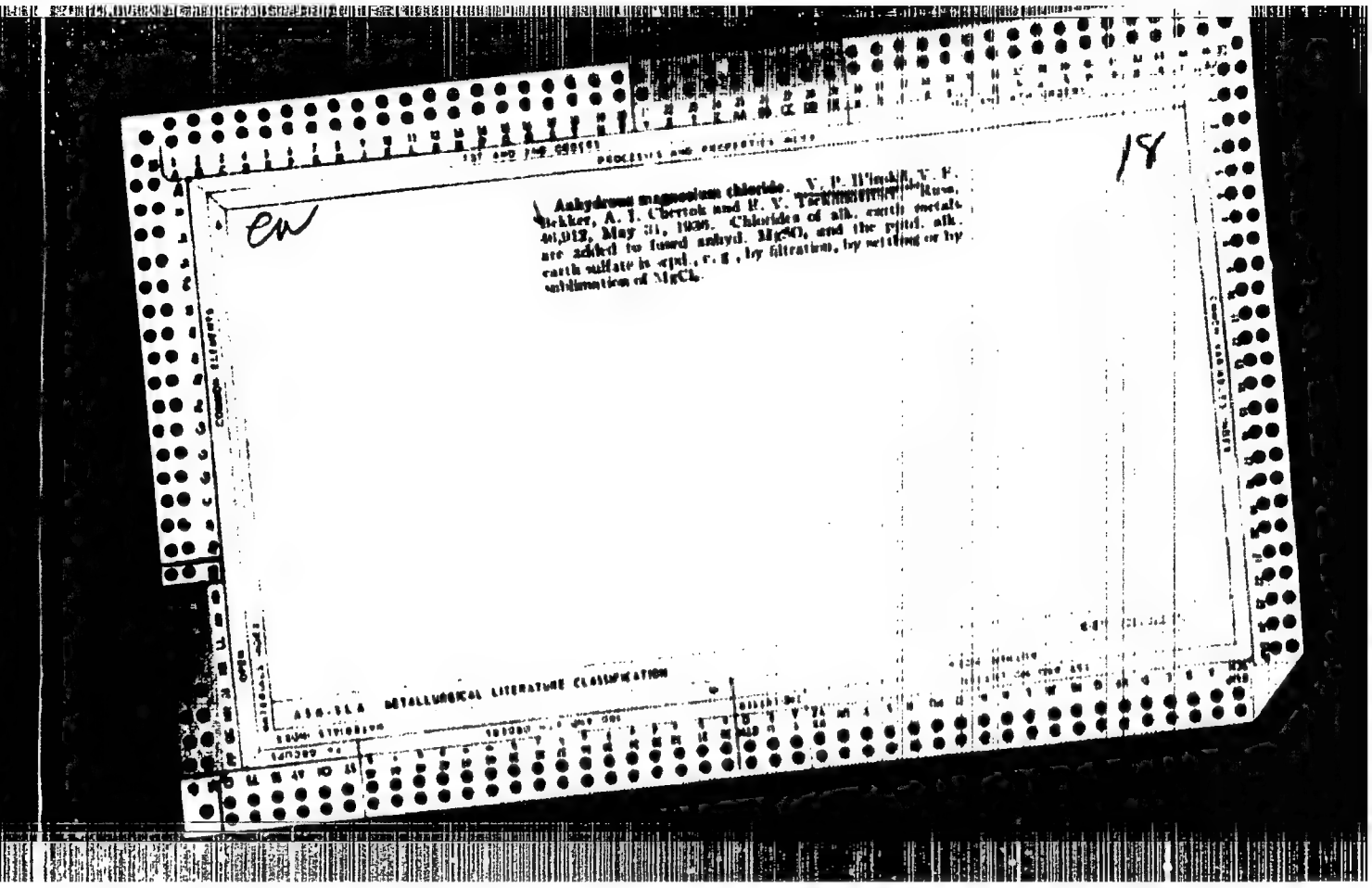




Ca

Removing [illegible] from compounds from aluminum salts
V. P. Il'inskii and N. S. Nakolov. Russ. [illegible], Appl
[illegible] Salts of Al salts are treated with pyridine,
which was preliminarily treated with a sulfide of an alk.
earth metal or NaOH.

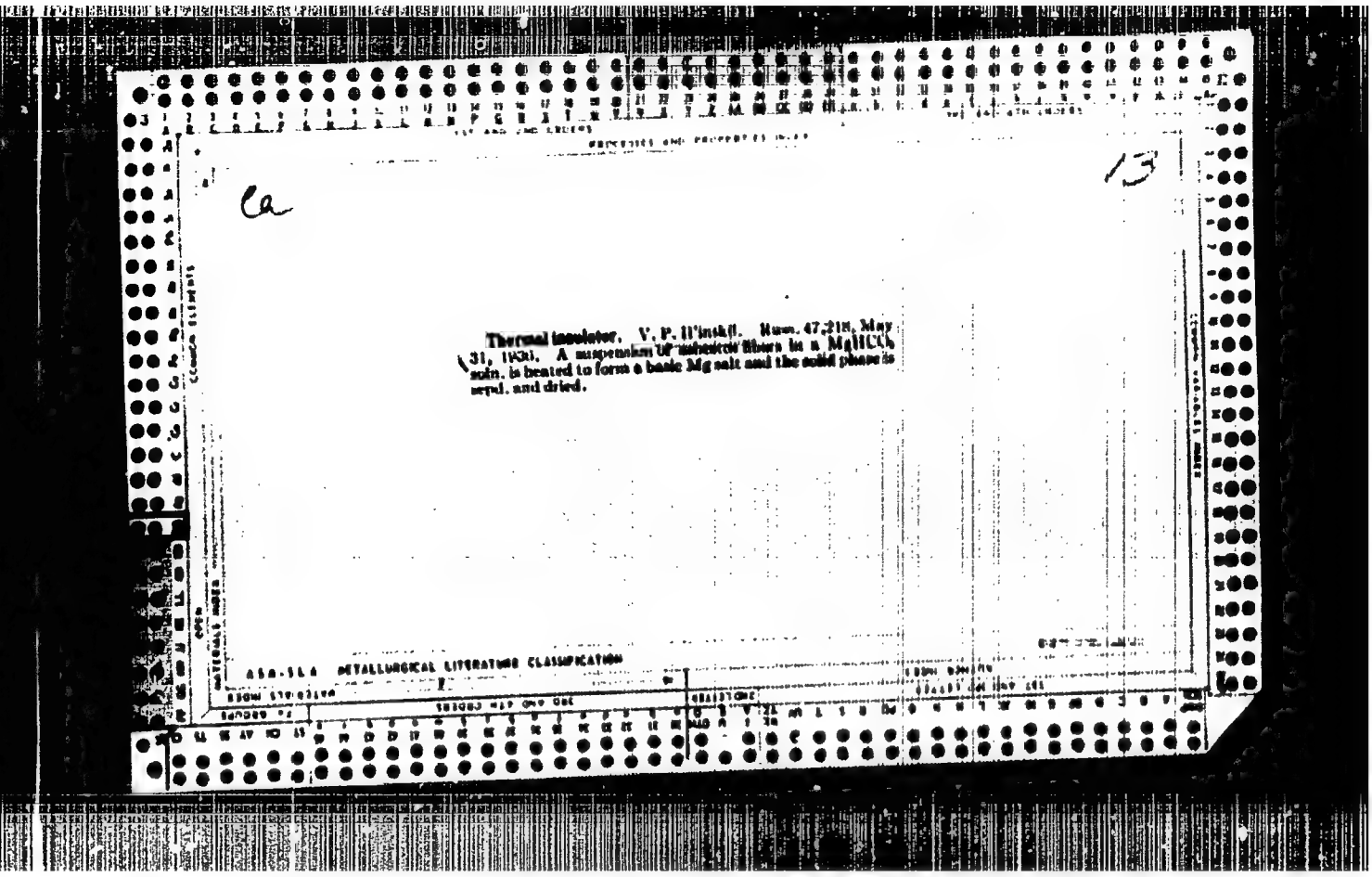
ASD-ELA METALLURGICAL LITERATURE CLASSIFICATION

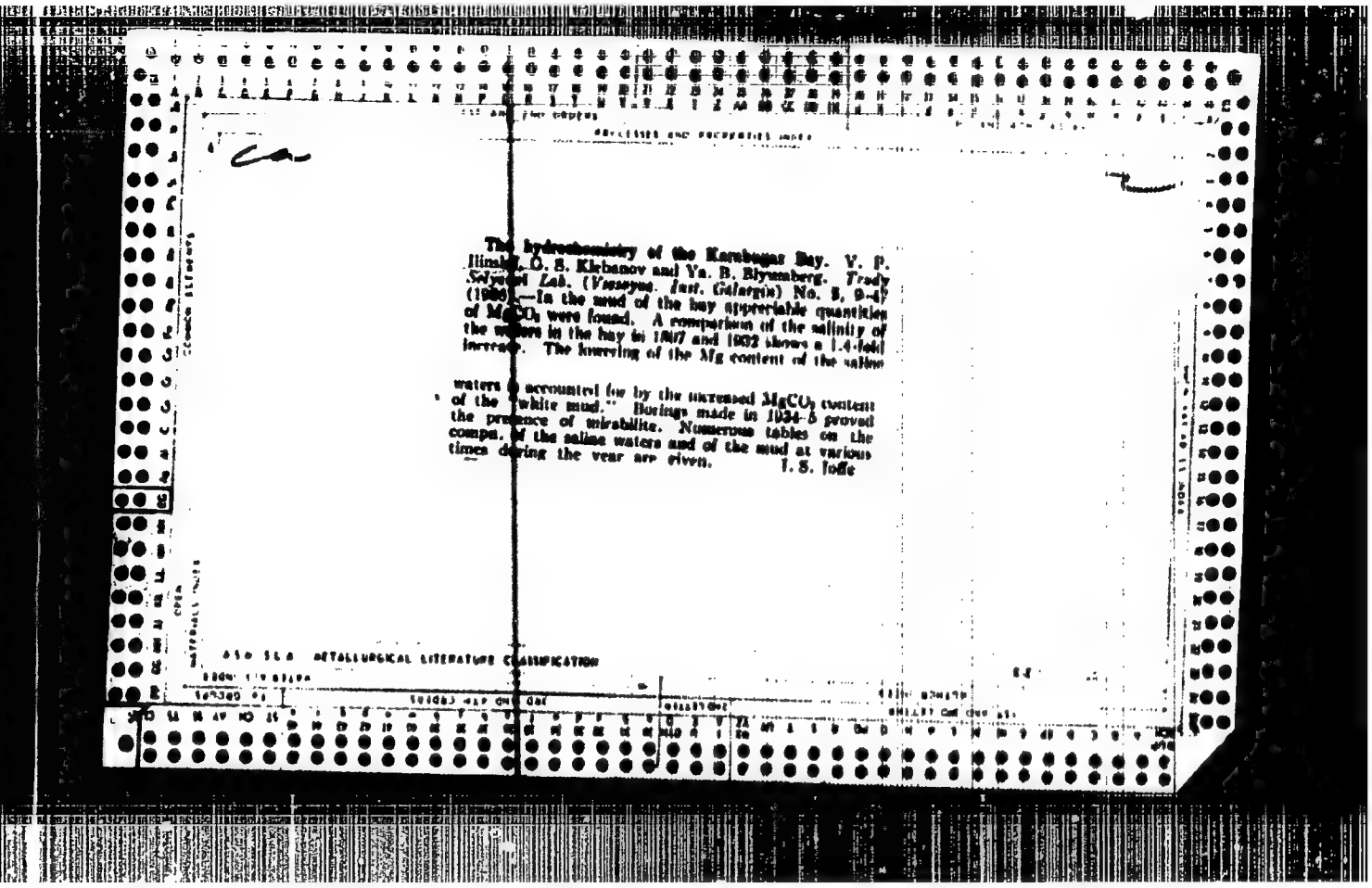


Anhydrous magnesium chloride. V. P. Il'inskii, V. F. Shekker, A. I. Cherrok and P. V. Tsvetnikov. Russ. 40,012, May 31, 1936. Chlorides of alk. earth metals are added to fused anhyd. $MgSO_4$, and the ppted. alk. earth sulfate is sepd., e.g., by filtration, by settling or by sublimation of $MgCl_2$.

19

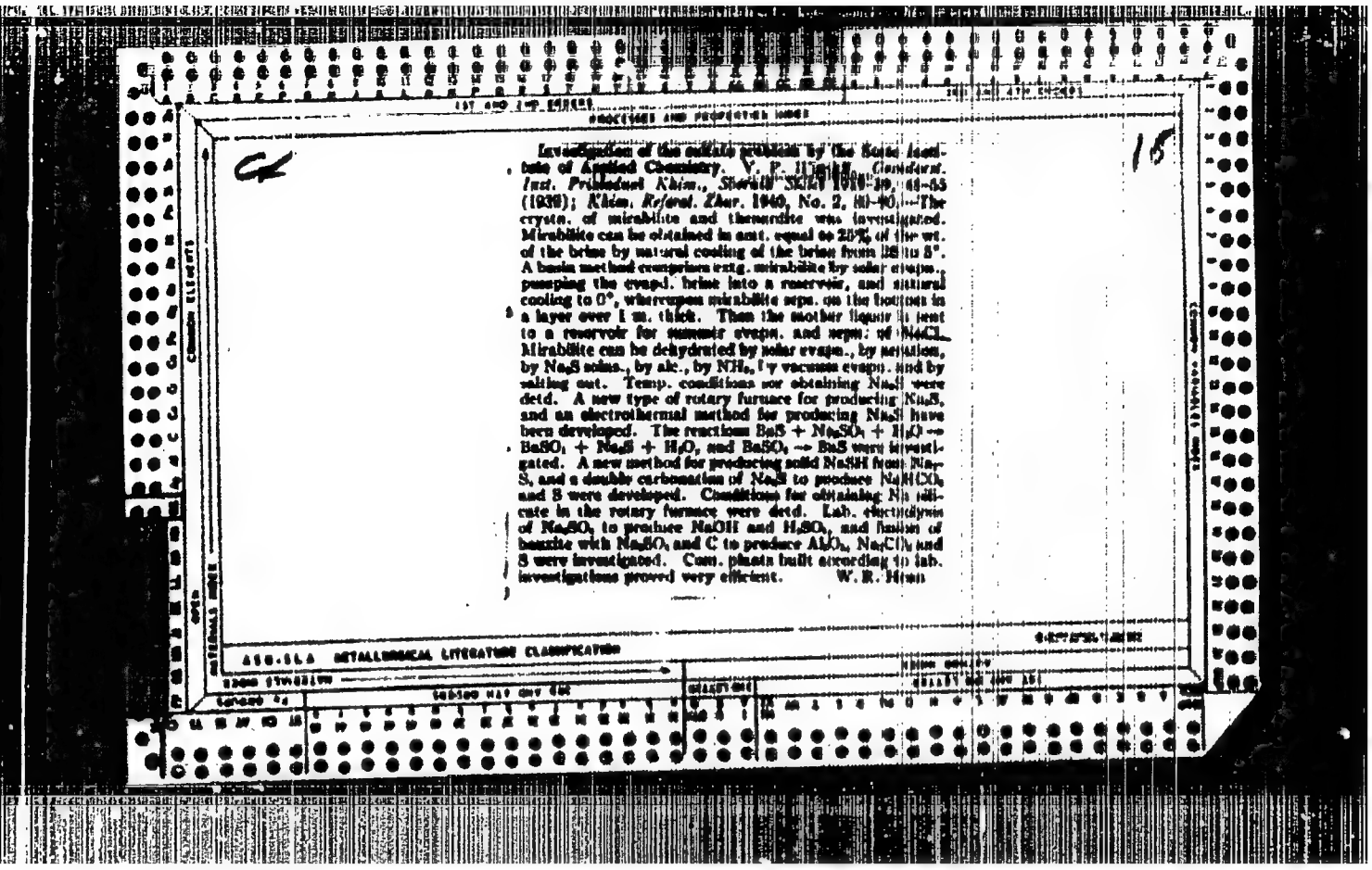
ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION



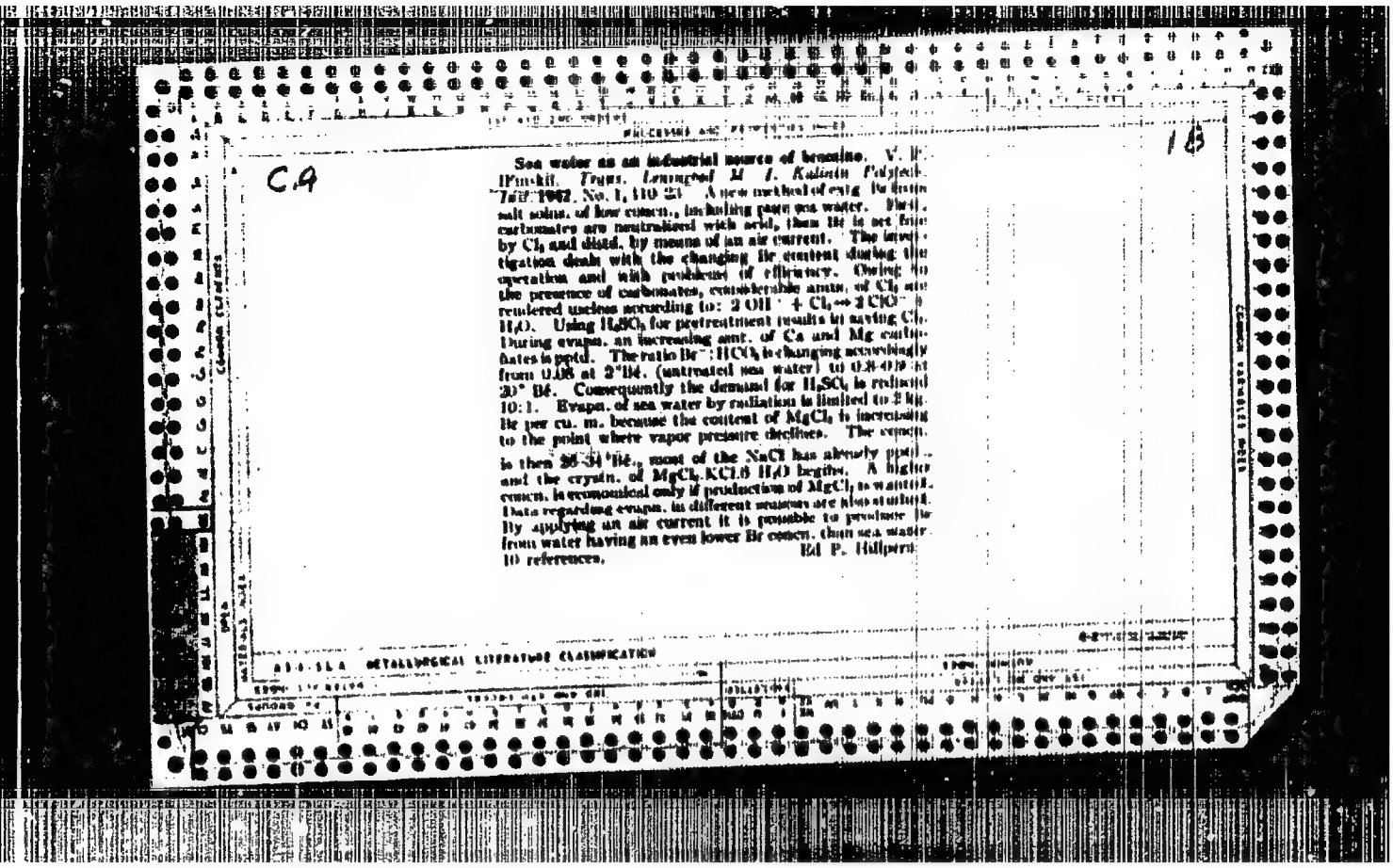


The hydrochemistry of the Karabugaz Bay. V. P. Ilinskii, O. S. Klebanov and Ya. B. Blyumberg. *Trudy Sel'yanol Lab.* (*Vsesoyus. Inst. Galurgii*) No. 3, 9-47 (1936).—In the mud of the bay appreciable quantities of $MgCO_3$ were found. A comparison of the salinity of the waters in the bay in 1927 and 1932 shows a 1.4-fold increase. The lowering of the Mg content of the saline waters is accounted for by the increased $MgCO_3$ content of the "white mud." Borings made in 1934-5 proved the presence of mirabilite. Numerous tables on the compn. of the saline waters and of the mud at various times during the year are given.

I. S. Joffe



Investigation of the sulfate problem by the Soviet Institute of Applied Chemistry. V. P. [illegible]. *Gosudarst. Inst. Prikladnoi Khim., Sbornik Statei* 1938, 10, 46–65 (1938); *Khim. Referat. Zhur.* 1940, No. 2, 81–90.—The crystn. of mirabilite and thenardite was investigated. Mirabilite can be obtained in amt. equal to 20% of the wt. of the brine by natural cooling of the brine from 25° to 5°. A basin method comprises crstg. mirabilite by solar evapn., pumping the evapd. brine into a reservoir, and natural cooling to 0°, whereupon mirabilite sepa. on the bottom in a layer over 1 m. thick. Then the mother liquor is sent to a reservoir for summer evapn. and sepn. of NaCl. Mirabilite can be dehydrated by solar evapn., by aeration, by Na_2S solns., by alc., by NH_3, by vacuum evapn. and by salting out. Temp. conditions for obtaining Na_2S were detd. A new type of rotary furnace for producing Na_2S, and an electrothermal method for producing Na_2S have been developed. The reactions $BaS + Na_2SO_4 + H_2O \rightarrow BaSO_4 + Na_2S + H_2O$, and $BaSO_4 \rightarrow BaS$ were investigated. A new method for producing solid NaSH from Na_2S, and a double carbonation of Na_2S to produce $NaHCO_3$ and S were developed. Conditions for obtaining Na silicate in the rotary furnace were detd. Lab. electrolysis of Na_2SO_4 to produce NaOH and H_2SO_4, and fusion of bauxite with Na_2SO_4 and C to produce Al_2O_3, NaCl, and S were investigated. Com. plants built according to lab. investigations proved very efficient. W. R. Hinn



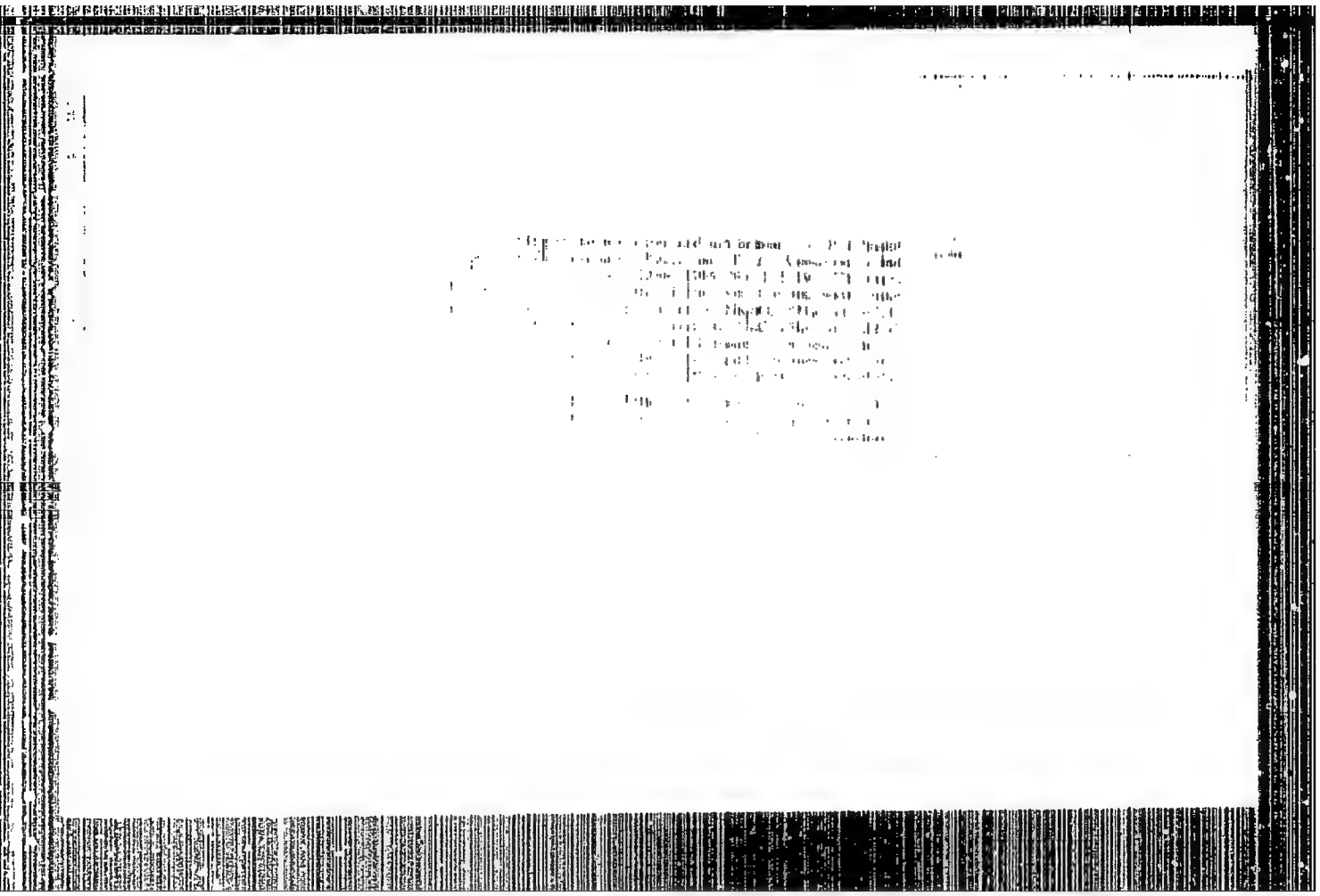
C.A.

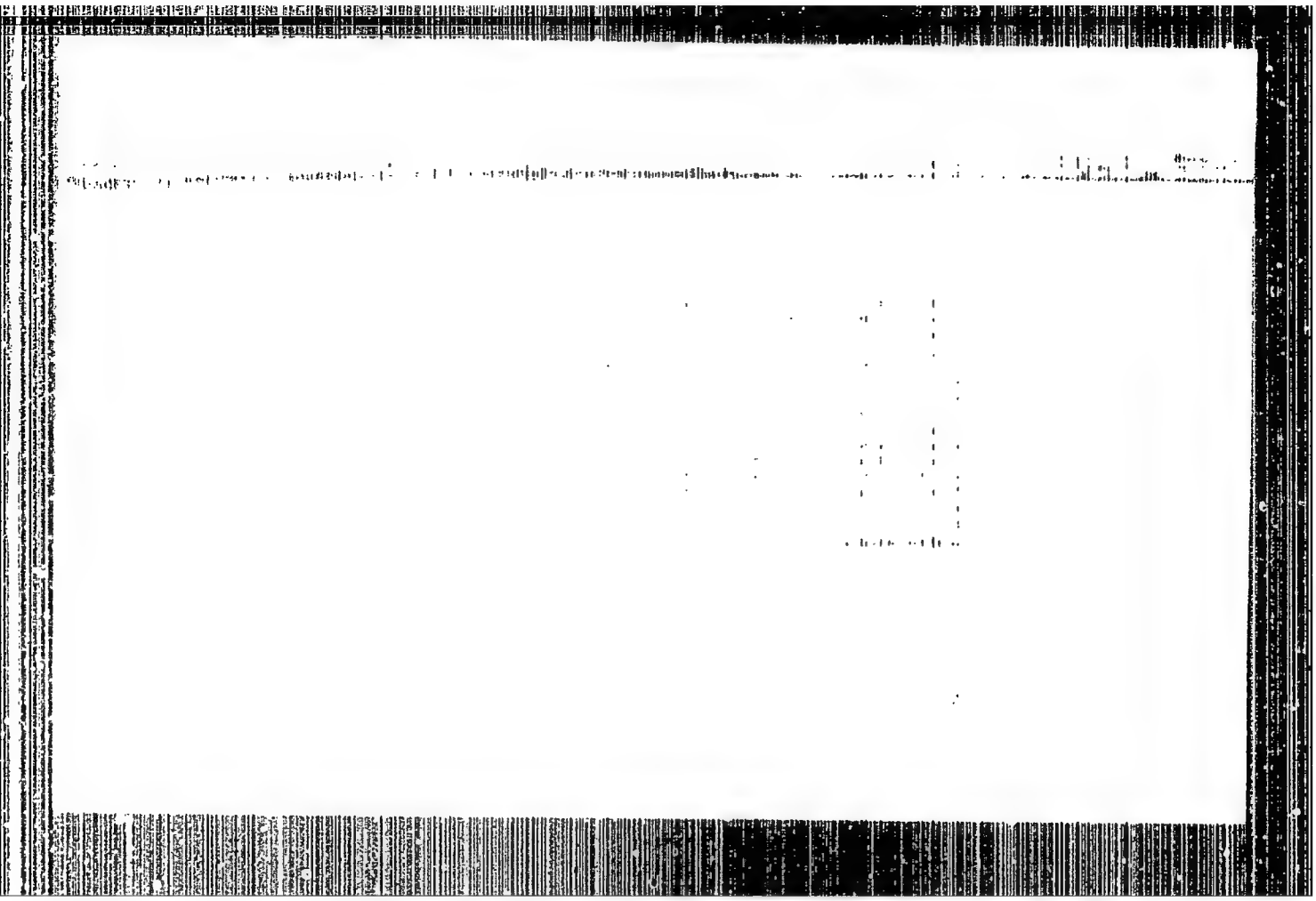
Sea water as an industrial source of bromine. V. P. Ilinskii. *Trans. Leningrad M. I. Kalinin Polytech. Inst.* 1942, No. 1, 110-23. A new method of extg. Br from salt solns. of low concn., including pure sea water. Dissd. carbonates are neutralized with acid, then Br is set free by Cl_2 and distd. by means of an air current. The investigation deals with the changing Br content during the operation and with problems of efficiency. Owing to the presence of carbonates, considerable amts. of Cl_2 are rendered useless according to: $2OH^- + Cl_2 \rightarrow 2ClO^- + H_2O$. Using H_2SO_4 for pretreatment results in saving Cl_2. During evapn. an increasing amt. of Ca and Mg carbonates is ppted. The ratio Br^-:HCO_3^- is changing accordingly from 0.05 at 2° Bé. (untreated sea water) to 0.8-0.9 at 20° Bé. Consequently the demand for H_2SO_4 is reduced 10:1. Evapn. of sea water by radiation is limited to 2 kg. Br per cu. m. because the content of $MgCl_2$ is increasing to the point where vapor pressure declines. The concn. is then 26-34° Bé., most of the NaCl has already ppted., and the crystn. of $MgCl_2 \cdot KCl \cdot 6H_2O$ begins. A higher concn. is economical only if production of $MgCl_2$ is wanted. Data regarding evapn. in different seasons are also given. By applying an air current it is possible to produce Br from water having an even lower Br concn. than sea water. 10 references. Ed P. Hilpert

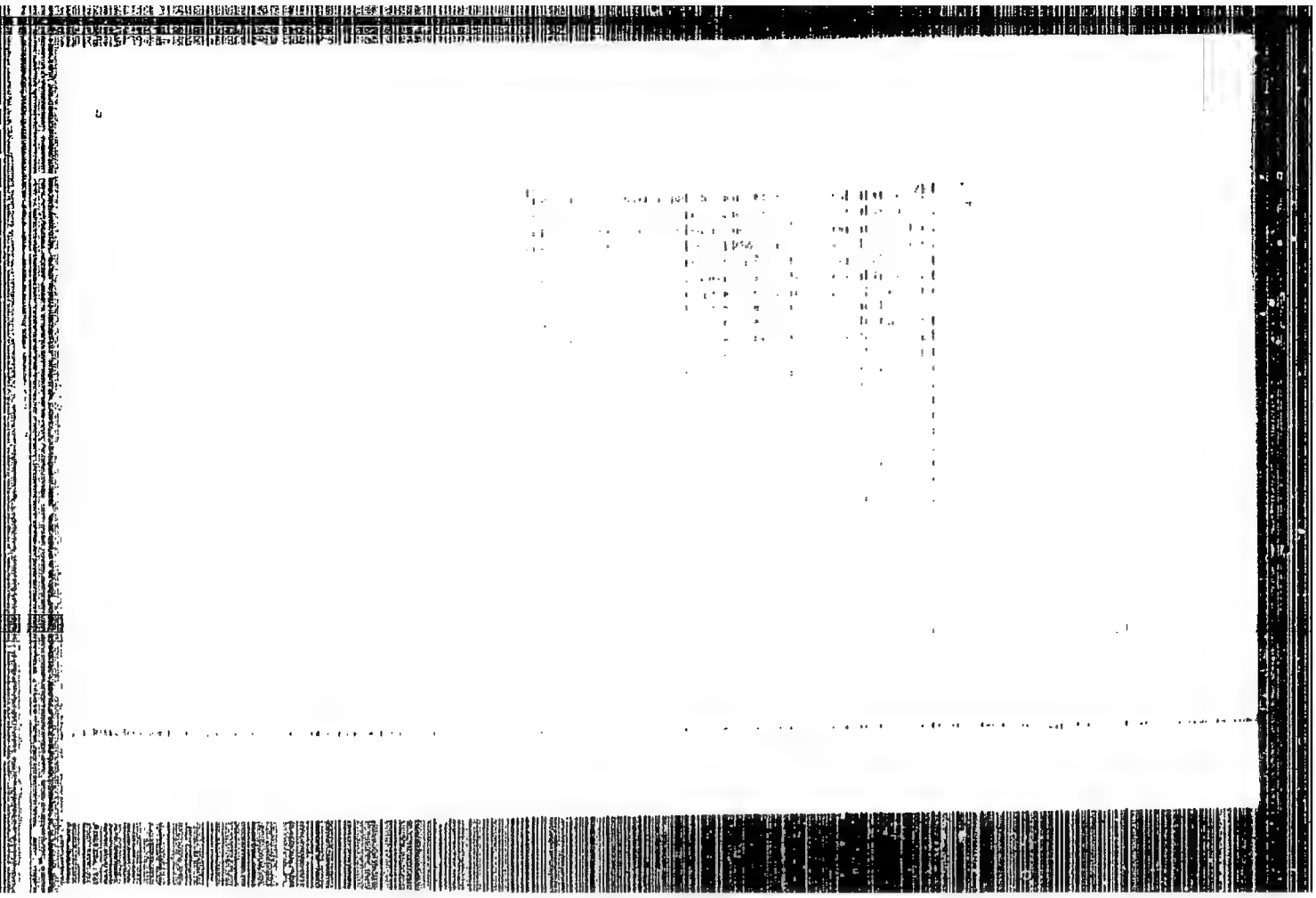
METALLURGICAL LITERATURE CLASSIFICATION

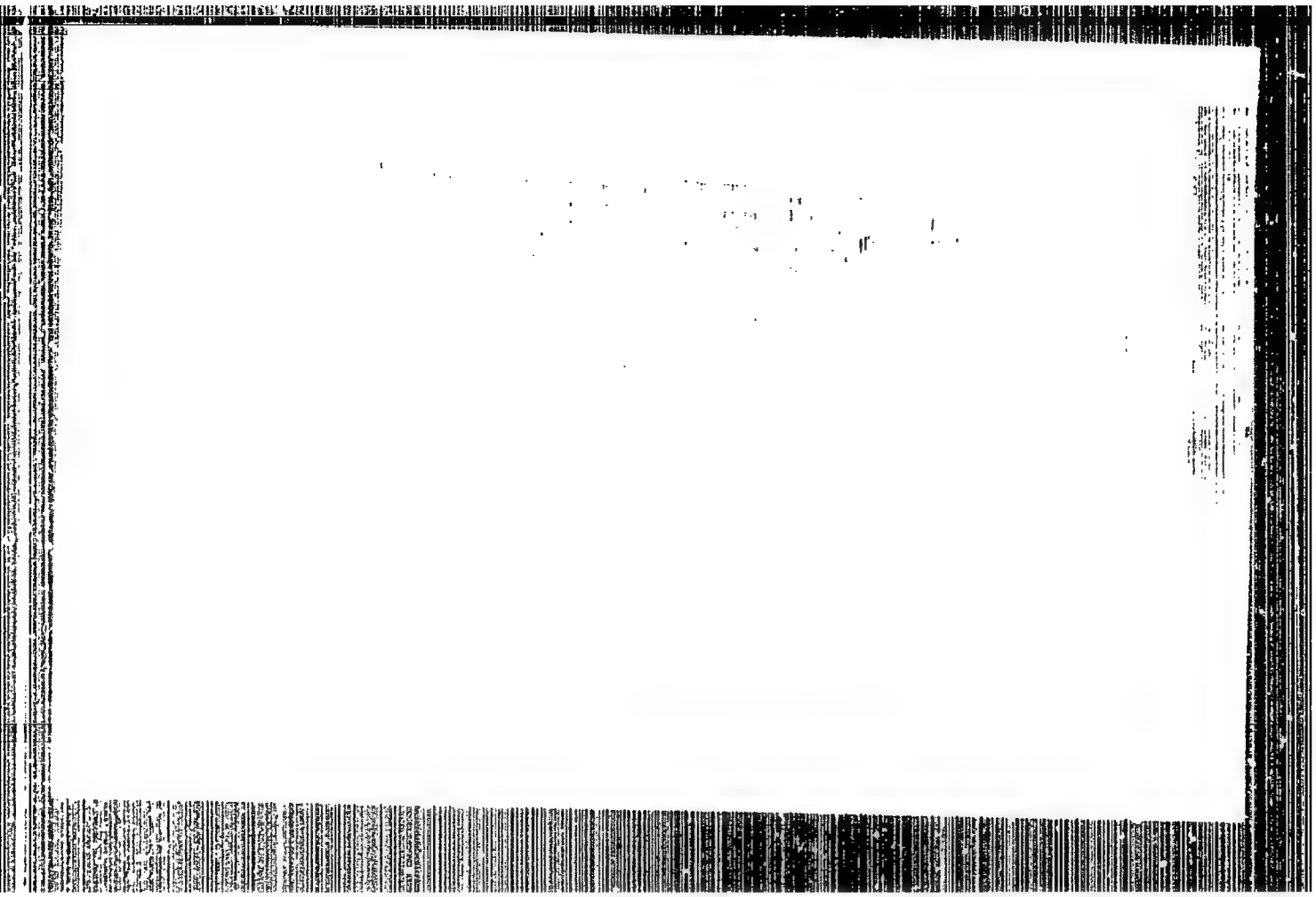
The dihydrate of sodium chloride. V. P. Ilinskii, V. P. Kozoley, and B. I. Akumov. *J. Appl. Chem. U.S.S.R.* 25, 500–7 (1952) (Engl. translation); *Zhur. Prikład. Khim.* 25, 507–15 (1952).—The properties of the dihydrate of NaCl formed in nature are discussed, and the production of pure NaCl by means of the dihydrate is investigated. In the temp. interval 0.15 to −21.2°, the stable phase in the system NaCl-H_2O is the dihydrate. The stability of the solid dihydrate is detd. by the relative humidity of the surrounding air. In natural conditions in chloride lakes having a small content of SO_4 ions in the brine (value of Jaenecke's index for SO_4 is 0.8–3.0), the total salt content frequently exceeds 23.0–24.5%. Consequently with a lowering of temp. in winter it is possible for the dihydrate to crystallize from the brine. Pure NaCl is obtained by means of the dihydrate by cooling a satd. soln. to give max. crystn. of the dihydrate, which is then sepd. from the mother liquor. At a temp. above 0.15°, the sepd. dihydrate breaks up with formation of anhyd. NaCl and a satd. soln. of it. Solns. contg. less than 23.25% NaCl do not sep. the dihydrate on cooling. Calcns. show that by cooling to −21.2°, one metric ton of soln. satd. with NaCl at 25° will sep. 83.1 kg. of the dihydrate, contg. 51.3 kg. NaCl. Also, the quantity and yield of NaCl which is formed on melting of the dihydrate is practically const. within the temp. limits of 0.15–25°. One metric ton of the dihydrate, melting at 25°, yields 481.5 kg. of anhyd. NaCl for a 77.82% yield.

Herbert Liebenthal









APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618520001-8"

SOV/81-59-16-57618

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 16, p 281 (USSR)

AUTHORS: Il'inskiy, V.P., Boytsova, V.F.

TITLE: The Sorption of Bromine From a Bromine-Air Mixture by Sulfur Dioxide and the Reprocessing of the Obtained Mixture of Acids to Br_2 or HBr

PERIODICAL: Sb. tr. Gos. in-ta prikl. khimii, 1958, Nr 41, pp 129-152

ABSTRACT: The reaction of interaction of bromine with SO_2 in the gaseous and liquid phases is studied and the necessary technological indices of the process are obtained. Methods for processing a mixture of HBr, HCl and H_2SO_4 acids to liquid bromine or hydrobromic and sulfuric acids have been developed. It has been shown that the reaction of interaction of Br_2 from a bromine-air mixture with SO_2 at room temperature (14 - 20°) proceeds quickly and completely at the stoichiometric ratio of Br_2 and SO_2. The sorption of Br_2 from a bromine-air mixture by an aqueous solution of the mixture of the acids $HBr+H_2SO_4$ runs to completion, but the consumption of SO_2 is 30 - 35% higher than in the reaction in the gaseous phase. The reaction products are absorbed to 98 - 99% from the gaseous phase by sprinkling the absorption column with a mixture of acids. The concentration of the HBr acid in the solution can be increased to 20% by means of the re-

Card 1/2

SOV/81-59-16-57618

The Sorption of Bromine From a Bromine-Air Mixture by Sulfur Dioxide and the Reprocessing of the Obtained Mixture of Acids to Br_2 or HBr

circulation of the sorbent in the absorption tower. The vapor pressure of HBr + H_2SO_4 over a mixture of HBr + H_2SO_4 acids for the temperatures 0.25 and 50°C is raised with an increase in the HBr and H_2SO_4 concentrations. The absorption coefficient of HBr and H_2SO_4, in the absorption by a mixture of acids, depends principally on the concentration of the sorbent, the temperature and the gas speed and does not depend on the concentration of HBr or Br_2 in the gaseous phase. The value of the absorption coefficient for the absorption of HBr at a temperature of 14 - 20°C varies from 37 to 40 m/hr and for HCl from 12 to 17 m/hr. The oxidation of the acid mixture (HBr + HCl + H_2SO_4) by chlorine to bromine proceeds practically to completion at the introduction of 1.05 - 1.1 chlorine equ. per 1 HBr equ. The distillation of bromine from the solution by steam proceeds to completion at a steam consumption of ~5 kg per 1 kg of bromine; bromine obtained in this way corresponds to the type "ch" (pure). The separation of the acid mixture (HBr + HCl + H_2SO_4) by means of distillation makes it possible to obtain HBr of 40% and H_2SO_4 of 70 - 80%. The yield of HBr in the form of a 40% solution is 90 - 95%.

V. Borisova.

Card 2/2

SOV/81-59-16-57619

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 16, p 281 (USSR)

AUTHORS: Il'inskiy, V.P., Rusinova, K.D., Drozdova, Ye.G.

TITLE: The Extraction of Bromine by the Method of Air Desorption From High-Thermal Waters

PERIODICAL: Sb. tr. Gos. in-ta prikl. khimii, 1958, Nr 41, pp 153 - 160

ABSTRACT: The oxidation of the Br^--ion in drilling water by chlorine water and gaseous chlorine at an increased temperature (70°C) has been studied. The pressure of Br_2-vapor over Cheleken' drilling water at 65°C, the coefficient of bromine distribution between the gaseous and liquid phases at 25, 40 and 65°C, and the coefficient of bromine desorption have been determined.

N. Shiryayeva.

Card 1/1

SOV/81-59-16-57620

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 16, p 281 (USSR)

AUTHORS: Il'inskiy, V.P., Boytsova, V.F., Drozdova, Ye.G., Kuz'mina, N.P., Rusinova, K.D.

TITLE: The Preparation of Dry Hydrogen Bromide

PERIODICAL: Sb. tr. Gos. in-ta prikl. khimii, 1958, Nr 41, pp 161-170

ABSTRACT: Dry HBr is synthesized from bromine and H_2 in the presence of the "BAU" coal at 600°C; the yield is 91 - 96%. A technological method of purifying and drying HBr has been developed ensuring the preparation of a product containing ~0.04% moisture and H_2S traces.

N. Shiryayeva.

Card 1/1

SOV/81-59-16-57609

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 16, p 280 (USSR)

AUTHORS: Il'inskiy, V.P., Popova, A.V.

TITLE: The Interaction of Chlorides of Alkali Metals With Hydrobromic Acid

PERIODICAL: Sb. tr. Gos. in-ta prikl. khimii, 1958, Nr 41, pp 183-192

ABSTRACT: A new more economic method for obtaining KBr and NaBr has been developed which is based on the interaction of the chlorides of alkali metals and the semi-finished product of bromine production, i.e. solutions of the mixture of the acids $HBr + H_2SO_4 + H_2O$.

N. Shiryayeva.

Card 1/1

SOV/81-59-16-57625

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 16, p 282 (USSR)

AUTHORS: Il'inskiy, V.P., Seferovich, Ya.Ye., Uverskaya, A.T., Volnyanskaya, E.M. Vysnenkova, O.I.

TITLE: The Preparation of Crystalline Ferrous Bromide by the Sorption of Bromine by a Ferrous Bromide Solution

PERIODICAL: Sb. tr. Gos. in-ta prikl. khimii, 1958, Nr 41, pp 193-209

ABSTRACT: Based on the data of the solubility in the system $FeBr_2$ - H_2O and thermochemical calculations on the system $FeBr_2$ - Br_2 (gas) and $FeBr_3$ - Fe, the possibility of obtaining $FeBr_2$ without smoothing has been proved and a method of production has been proposed.

N. Shiryayeva.

Card 1/1

IL'INSKIY, V.P.; KOKOVKINA, L.I.

Production of potassium and sodium iodides from chlorides and hydriodic acid. Med. prom. 13 no.2:20-25 F '59. (MIRA 12:3)

1. Leningradskiy khimiko-farmatsevticheskiy institut.
(ALKALI METAL IODIDES)
(HYDRIODIC ACID)

Dissertation: "Vibration Insulation of Industrial Assemblies at the Outset of Dynamic Reactions." Cand Tech Sci, Moscow Inst of Chemical Machine Building, 21 May 54. Vechernyaya Moskva, Moscow, 12 May 54.

SO: SUM 284, 26 Nov 1954

IL'INSKIY, V.S.

Protection of laboratory instruments and equipment from vibration. Zav.lab.21 no.7:867-868 '55. (MLRA 8:10)

1. Nauchno-issledovatel'skiy institut eksperimental'noy khirurgicheskoy apparatury i instrumentov
(Measuring instruments) (Vibration)

IL'INSKIY, V.S., kandidat tekhnicheskikh nauk.

Vibration isolation in equipment of the chemical industry. Khim. prom. no.1:35-41 Ja-F '57. (MLRA 10:4)
(Vibration) (Chemical engineering--Equipment and supplies)

IL'INSKIY, V.S., kandidat tekhnicheskikh nauk.

Vibration absorbers for machine tool and equipment.
Mashinostroitel' no.2:31-32 F '57. (MLRA 10:5)
(Machinery--Vibration)

IL'INSKIY, V.S.

Vibration dampers used for metal-cutting machine tools. Stan. i instr. 28 no.5:19-20 My '57. (MLRA 10:6)
(Machine tools--Attachments)

117-58-6-16/56

AUTHOR: Il'inskiy, V.S., Candidate of Technical Sciences

TITLE: Devices for Mechanized Cutting, Welding, Soldering, and Metallization (Prisposobleniya dlya mekhanizirovannoy rezki, svarki, payki i metallizatsii)

PERIODICAL: Mashinostroitel', 1958, Nr 6, pp 27-28 (USSR)

ABSTRACT: A device which permits the cutting, welding, soldering, and metallization of cylindrical surfaces, pipes, etc.(Figure 1) is described. The cylindrical surface is held by a roller chain. The spring and the rubber ring of the roller ensure an equal and smooth movement of the device on the cylindrical surface. Another device (Figure 2) is used for form-cutting at the junction of pipes with equal or different diameters, and even of pipes with various details, such as cones, balls, etc. The pipes may be connected at any angle by means of this device. At the same time, a part of the detail may be cut off and an opening made in the other. The cutting speed is regulated by changing the rpm of the drive. The device is of simple construction, light and exact. It was developed by the author. There are 2 figures.

AVAILABLE: Library of Congress

Card 1/1 1. Machines-Design 2. Cutting tools 3. Welding 4. Soldering

SOV/122-58-8-26/29

AUTHOR: Ilinskiy, V.S., Candidate of Technical Sciences

TITLE: A Mechanism for Impulsive Feeding of Wire in Apparatus for Welding, Cutting, Depositing, Metallising and Soldering (Mekhanizm impul'snoy podachi provoloki v apparatakh dlya svarki, rezki, naplavki, metallizatsii i payki)

PERIODICAL: Vestnik mashinostroyeniya, 1958, Nr 8, pp 84-85 (USSR)

ABSTRACT: Continuous feeding of wire is said to require bulky mechanism. The impulse principle is claimed to accomplish the feeding with less power and so reduces the size of the mechanism, without impairing the uniformity required in practice owing to the high frequency of the impulses. A rotating, eccentric reciprocates a hollow round slider, surrounding the wire. 3 balls inside the slider wedge the wire by pressing against a conical part of the slider bore when the slider moves forward and release the wire when the slider moves back. During the rearward stroke, the wire remains stationary because it is lightly clamped inside the exit nozzle. The wedging balls can be released by a push button. The rate of wire feed is varied by changing the speed of the eccentric or the amount of eccentricity. Experimental units were made in the shops

Card1/2

SOV/122-58-8-26/29

A Mechanism for Impulsive Feeding of Wire in Apparatus for Welding, Cutting, Depositing, Metallising and Soldering

of the Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy obrabotki metallov (All-Union Scientific Research Institute of Metal Welding) with satisfactory results. There is 1 figure.

1. Welding--Equipment 2. Soldering--Equipment 3. Wire--Handling
4. Feed mechanisms--Performance

Card 2/2

SOV/135-59-1-7/18

AUTHOR: Il'inskiy, V.S., Candidate of Technical Sciences

TITLE: The Optimum Technology of Oxygen Steel Cutting (Optimal'nyye rezhimy kislorodnoy rezki stali)

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 1, pp 22-24 (USSR)

ABSTRACT: A series of experiments were carried out to find the optimum technology in oxygen cutting by determining the interdependence of prevalent parameters, such as oxygen consumption, pressure and density and metal thickness. Formulae were developed to compute the cutting rate, and a comparison of results obtained by calculation and experiments showed a satisfactory agreement. The

Card 1/2

The Optimum Technology of Oxygen Steel Cutting

optimum parameters for cutting low-carbon steel are given. There are 6 graphs, 1 diagram and 2 tables.

Card 2/2

PRESS I BOOK EXPLOITATION SOV/4377

Il'inskiy, V. S.

Voprosy izolyatsii vibratsii i udarov (Problems in the Isolation of Vibration and Shocks). Moscow, Izd-vo "Sovetskoye radio," 1960. 158 p. No. of copies printed not given.

Ed.: Yu. I. Sukhanov; Tech. Ed.: A. A. Sveshnikov.

PURPOSE: This book is intended for engineers designing radio equipment. It may also be used as a manual for designing vibration-insulating systems.

COVERAGE: The book discusses theoretical and practical problems in protecting various kinds of equipment against vibration and shocks. It deals with a number of currently-used protecting devices and gives such practical details as the data needed to select protective elements for a given equipment. No personalities are mentioned. There are 29 references, 6 Soviet, 21 English and 2 German.

Card 1/4

ZHMUR, A.S.; IL'INSKIY, V.S.; NENYUKOV, V.P.

Single action accelerometers. Izm.tekh. no.12:12-16 D '62. (MIRA 15:12)
(Accelerometers)

IL'INSKIY, V. V.

"Investigation of the Effect of Water-Dissolved Air on Cavitation of Hydroturbines." Cand Tech Sci, Khar'kov Polytechnic Inst imeni V. I. Lenin, Min Higher Education USSR, Khar'kov, 1955. (KL, No 15, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

VASIL'YEV,A.; ZAPASNOY,A.; IL'INSKIY,Ye.; PAKUSHIN,V.; SHEVCHUK,S.

Business accounting for highway-operation sections. Avt.dor.17 no.1:6 Jl-Ag'54. (MLRA 8:10)

(Roads--Estimates and costs)

IL'INSKIY, YE. M.

Mar 1948

USSR/Mines
Mining Machinery
Mining Methods

"Mining with Open Hoppers in the Temir-Tau Mine and the Bol'shaya Gora Open-Cut Mine," G. A. Gavelich, Ye. M. Il'inskiy, Mining Engineers, 2½ pp

"Gornyy Zhur" No 3

Describes in detail the accumulative extraction method of mining used in the Temir-Tau magnetite mine and the Bol'shaya Gora open-cut dolomite mine, and explain the open-hopper systems with aid of diagrams.

PA 51T68

IL'INSKIY, YE. M.

Sep 48

USSR/Mining Methods
Coal

"Hydraulic Stripping at the Krivoy Rog Coal Field,"
Ye. M. Il'inskiy, 4 pp

"Mek Trud i Tyazh Rabot" No 9

This operation was first tried at mine No 5 of subject coal fields. Briefly describes fundamentals of the operation and results. Tables show relative production for 7-month period in 1946. Suggested that comprehensive study of actual performance of subject method will show even better production results.

28/49T107

IL'INSKIY, Ye.V., kandidat veterinarnykh nauk.

Tissue therapy in surgery. Veterinariia 32 no.9:58-60 S '55.
(MLRA 8:12)

1.Khar'kovskiy veterinarnyy institut.
(TISSUE EXTRACTS) (VETERINARY SURGERY)

USSR / General Problems of Pathology. Transplantation of Tissues and Tissue Therapy. U-2

Abs Jour: Ref Zhur-Biol., No 15, 1958, 70737.

Author : Ilinskiy Ye. V.
Inst : Novocherkassk Zootechnical-Veterinary Institute.
Title : Comparative Evaluation of Certain Methods in Tissue Therapy.

Orig Pub: Tr. Novockerkasskogo zootekhn-vet in-ta, 1957, vyp 10, 371-374.

Abstract: Various methods of tissue therapy were used in the treatment of the following: 54 horses with purulent necrosis in the withers region; 73 animals (horses, large horned cattle, dogs and cats) with eye diseases; 81 animals with ulcers; 40 cows with chronic purulent-catarrhal endometritis. The treatment included: 1. implantation of tissues preserved according to Filatov or treated with a two percent solu-

Card 1/2

IL'INSKIY, Ye.V.

Automatic stand tests of mechanisms with pneumatic drives. Avt. prom. no.6:29 Je '60. (MIRA 13:8)

1. L'vovskiy avtobusnyy zavod.
(Motorbuses--Pneumatic equipment)
(Electronic instruments)

S/188/61/000/002/003/010
B113/B203

9.2572

AUTHORS: Il'inskiy, Yu.A., Karasev, M.D.

TITLE: Study of transition processes in a two-circuit parametric transformer with sum and difference output frequency

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 3, fizika, astronomiya, no. 2, 1961, 12 - 18

TEXT: First, the authors analyze the transition processes. According to Ref. 1 (Karasev, M.D. UFN, LXIX, vyp. 2, 1959), a two-circuit parametric transformer can be described by a system of equations,

Eq. (1) $\ddot{x}_i + \omega_i^2 x_i = 2\delta_i \dot{x}_i + \alpha_i f(\omega t)(x_1 + x_2) + e_i$. The frequency of the parametric change ω by the relation $\omega = \omega_2 \pm \omega_1 \pm \Delta$ is related to the circuit frequencies. The upper sign holds for a rotating (difference) modulator, the lower one for a non-rotating (sum) modulator; Δ is a slight mistuning. The external force is supposed to be introduced in one circuit only so that the slowly variable, complex amplitude E_2 of the external

Card 1/8

S/188/61/000/002/003/010
B113/B203

Study of transition processes ...

force vanishes and the frequency $p = \omega_1 + \Delta_1$. The damping factor of oscillations after switching off the external signal is obtained from Eq. (2)

$$x_1' = |z_1^{(1)}| e^{\mathrm{Re}\lambda_1 t} \cos\left[\left(\omega_1 + \frac{\Delta}{2} + \mathrm{Im}\lambda_1\right)t + \arg z_1^{(1)}\right] +$$

$$+ |z_1^{(2)}| e^{\mathrm{Re}\lambda_2 t} \cos\left[\left(\omega_1 + \frac{\Delta}{2} + \mathrm{Im}\lambda_2\right)t + \arg z_1^{(2)}\right],$$

$$x_2' = |z_2^{(1)}| e^{\mathrm{Re}\lambda_1 t} \cos\left[\left(\omega_2 \mp \frac{\Delta}{2} \mp \mathrm{Im}\lambda_1\right)t \mp \arg z_2^{(1)}\right] +$$

$$+ |z_2^{(2)}| e^{\mathrm{Re}\lambda_2 t} \cos\left[\left(\omega_2 \mp \frac{\Delta}{2} \mp \mathrm{Im}\lambda_2\right)t \mp \arg z_2^{(2)}\right].$$

$$z_1^{(1)} = \frac{E}{2|\omega_1(\lambda_1 - \lambda_2)} \frac{\delta_1 + j\frac{\Delta}{2} + \lambda_2}{\lambda_1 + j\frac{\Delta}{2} - j\Delta_1},$$

$$z_2^{(1)} = \mp \frac{E}{2|\omega_1(\lambda_1 - \lambda_2)} \frac{|\omega_2|e^{j\varphi}}{2\omega_2} \frac{1}{\lambda_1 + j\frac{\Delta}{2} - j\Delta_1}.$$

Card 2/8

Study of transition processes ...

and the formation of oscillations after switching on the external force proceeds by the law $x_i' = x_i^{(0)}(t) - x_i'(t)$, the steady solution $x_i^{(0)}$ having the form of Eq. (3)

$$x_1^{(0)} = |z_1^{(0)}| \cos(pt + \arg z_1^{(0)}),$$

$$x_2^{(0)} = |z_2^{(0)}| \cos[(\omega \mp p)t \mp \arg z_2^{(0)}],$$

$$z_1^{(0)} = \frac{E}{2j\omega_1} \frac{b_2 - j(\Delta - \Delta_2)}{\left(\lambda_1 + j\frac{\Delta}{2} - j\Delta_1\right)\left(\lambda_2 + j\frac{\Delta}{2} - j\Delta_2\right)} =$$

$$= \frac{E}{2j\omega_1} \frac{b_2 - j(\Delta - \Delta_2)}{(b_1 + j\Delta_1)(b_2 - j(\Delta - \Delta_2)) \mp \frac{a_1 a_2}{4\omega_1\omega_2}|f_1|^2},$$

$$z_2^{(0)} = \pm\frac{E}{2j\omega_1} \frac{j a_2 / \pm 1}{2\omega_2} \frac{1}{\left(\lambda_1 + j\frac{\Delta}{2} - j\Delta_1\right)\left(\lambda_2 + j\frac{\Delta}{2} - j\Delta_2\right)} =$$

$$= \pm\frac{E}{2j\omega_1} \frac{j a_2 / \pm 1}{2\omega_2} \frac{1}{(b_1 + j\Delta_1)(b_2 - j(\Delta - \Delta_2)) \mp \frac{a_1 a_2}{4\omega_1\omega_2}|f_1|^2}.$$

Card 3/8

Study of transition processes ...

The trajectories of the roots $\lambda_{1,2}$ characteristic of transition processes and steady behavior having the form of Eq. (A)

$$\lambda_{1,2} = -\frac{\delta_1+\delta_2}{2} \pm \sqrt{\frac{1}{4}(\delta_1-\delta_2+j\Delta)^2 \pm \frac{\alpha_1\alpha_2}{4\omega_1\omega_2}|f_1|^2},$$

where $f_{\pm 1}$ is determined by the Fourier expansion of the function $f(\omega t)=\sum f_k e^{ik\omega t}$, are shown in Figs. 1 and 2 in the complex plane with a change in the parameter Δ and $k^2 = \frac{\alpha_1\alpha_2}{4\omega_1\omega_2}|f_1|^2$. The trajectories of λ_2 are on the left, those of λ_1 on the right of $-\frac{\delta_1+\delta_2}{2}$; the trajectories of the rotating modulator are within $-\delta_2$ and $-\delta_1$, those of a non-rotating modulator are without. On the basis of Eq. (2) and Eq. (3) and Figs. 1 and 2, the following has been found: In a rotating modulator, the transition process is the sum of two damped harmonic oscillations (with switched-off external signal), or the sum of two damped and one steady oscillation (with switched-on exter-

Card 4/8

Study of transition processes ...

nal force). For a non-rotating modulator, it follows from Eq. (3), that the frequency characteristic of the amplifier is represented by the product of the frequency characteristics of individual circuits. Experiments dealt with a low-frequency parametric transformer with circuit frequencies of about 100 and 400 kc/sec. In conformity with Eq. (2), the transition processes had two constant times, and pulsations in the transition processes were observed in the case of mistuning. Further, it was found that the duration of the transition process, in the case of large K, was proportional to K (K being the voltage amplification factor in the first circuit of a regenerative transformer). The duration of the transition process was the time during which the oscillation amplitude attained the $(1 - e^{-1})$-fold of its steady value. In a non-rotating modulator, the duration of the transition process dropped monotonically with increasing k^2 in both circuits. The time of formation in the second circuit was slightly longer than in the first one due to a slow increase of oscillations in the second circuit at the beginning of the formation process. There are 6 figures and 1 Soviet-bloc reference.

Card 5/8

21608

S/188/61/000/002/003/010
B113/B203

Study of transition processes ...

ASSOCIATION: Kafedra teorii kolebaniy (Department of the Theory of Oscillations)

SUBMITTED: June 19, 1960

Card 6/8

S/188/61/000/006/001/007
B108/B138

9,2572

AUTHORS: Il'inskiy, Yu. A., Karasev, M. D.

TITLE: Double-tuned parametric oscillator with external feed

PERIODICAL: Moscow Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 6, 1961, 3 - 11

TEXT: A double-tuned parametric amplifier operates as an oscillator if the feed amplitude is high enough. A self-excited oscillator whose amplitude is limited by a non-linear resistor in one of its circuits is considered. Synchronization of the oscillator with an external force is also dealt with. In experimental investigations, the authors used a parametric oscillator with frequencies of 100 and 400 kcps in the two circuits, with semiconducting diodes of the types ДГЦ-27 (DGTs-27) and Д809 (D809) serving as nonlinear capacity. It was found that the amplitude is limited either by a nonlinear resistance or by a dependence of the parametric connection between the circuits on amplitude fluctuations. Perturbations that are due to the nonlinear reactance lead to a

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distortion of the amplitude-frequency characteristics. An external force produces the same synchronization and beat phenomena as in a tube generator. In the r.f.-range, calculated and experimental results are entirely consistent. There are 6 figures and 6 Soviet references.

ASSOCIATION: Kafedra teorii kolebaniy (Department of the Theory of Oscillations)

SUBMITTED: January 30, 1961

24895

S/109/61/006/008/015/018
D207/D304

9.2572

AUTHORS: Il'inskiy, Yu.A., and Karasev, M.D.

TITLE: Transients in a two circuit parametric amplifier

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 8, 1961, 1397 - 1400

TEXT: The authors give a short report on the theoretical and experimental analysis of transients in a two circuit parametric amplifier. The theoretical analysis is carried out assuming a small signal. The equivalent ccts of two circuit parametric amplifiers are shown in Fig. 1. These are systems with two degrees of freedom and with periodically varying reactive element. The equations for the above systems may be written as

$$\ddot{x}_i + \omega_i^2 x_i = \mu(-2\delta_i \dot{x}_i + a_i f(\omega t)(x_1 + x_2) + \epsilon_i). \qquad (1)$$

where i = 1, 2 the index related to either the first or the second

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Transients in a two circuit ...

circuit; e_1 - external driving force; $e_2 = 0$; μ - a small parameter; σ - attenuation of the i-th circuit; f - a periodic function with period 2 ; ω - the frequency of change of the parameter. It follows from Eq. (1) that the oct attenuation and modulation depth are assumed to be small, so that the Q of the circuits is high and parametric coupling weak; oscillations in the system are very nearly harmonic. The constant coupling may be large. Eq. (1) can be solved by one of the quasi-linear methods, e.g. by averaging. Eq. (1) is first reduced to standard form by assuming $\omega = \omega_1 + \omega_2$ and putting

$$x_i = Z_i' e^{j\omega_i t} + Z'_{-i} e^{-j\omega_i t}, \quad \dot{x}_i = j\omega_i (Z_i' e^{j\omega_i t} - Z'_{-i} e^{-j\omega_i t}),$$

where $i = 1, 2$; $Z'_{-i} = Z_i'^*$ - complex amplitudes, so that after averaging the shortened form

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S/109/61/006/008/015/018.
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Transients in a two circuit ...

$$\dot{z}_1 = \mu\left\{-\left(\delta_1 + j\Delta_1 + \frac{j\alpha_1 f_o}{2\omega_1}\right)z_1 - \frac{j\alpha_1 f_1}{2\omega_1}z_{-2} + \frac{E}{2j\omega_1}\right\},\quad \dot{z}_{-2} = \mu\left\{-\left(\delta_2 - j\Delta_2 - \frac{j\alpha_2 f_o}{2\omega_2}\right)z_{-2} + \frac{j\alpha_2 f_{-1}}{2\omega_2}z_1\right\} \tag{2}$$

is obtained where f_o, f_1, f_{-1} - the Fourier coefficients of function $f(\omega t)$

$$f(\omega t) = \sum_{k=-\infty}^{k=+\infty} f_k e^{jk\omega t}.$$

It is assumed further that $f_o = 0$ since

$$\Delta_i' = \Delta_i + \frac{\alpha_i f_o}{2\omega_i}$$

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can be introduced and the detuning due to the constant component of coupling thus taken into account, the solution of linear equations (2) with constant coefficients is easily found for any external force E and any initial conditions. E.g. the transient state can be determined, i.e. the presence of oscillations in the system; when E = constant and initial condition $Z_1(0) = 0$ the equations have then the shape of matrix

$$\dot{Z} = AZ + B,$$

$$Z = \begin{pmatrix} Z_1 \\ Z_2 \end{pmatrix}, \quad B = \mu \frac{E}{2j\omega_1} \begin{pmatrix} 1 \\ 0 \end{pmatrix}.$$

Its solution, satisfying the initial conditions $Z(0) = 0$ is

$$Z = \int_0^t e^{A(t-s)} B(s)\, ds = \quad (3)$$

$$= \frac{1}{\mu^2(\lambda_2 - \lambda_1)} \left\{ \frac{1 - e^{\mu\lambda_1 t}}{\lambda_1} [AB - \lambda_2 B] - \frac{1 - e^{\mu\lambda_2 t}}{\lambda_2} [AB - \lambda_1 B] \right\}$$

Card 4/7

Transients in a two circuit ...

It follows that in a two circuit parametric amplifier the time of establishment of the steady state does not depend on the relationship between the phase of the suddenly applied signal and the phase of pulsed variation of the parameter; that at optimum tuning ($\Delta_1 = \Delta_2 = 0$) the characteristic roots are real. With $f_1 = 0$ (no varying parameter) these are essentially equal to $-\delta_1$ and $-\delta_2$ and diverge symmetrically with respect to the centre of $(-\delta_2, -\delta_1)$ with increasing $|f_1|$. When the smaller of the roots (absolute value) reaches zero the system becomes self oscillating. When this root assumes smaller absolute values then the duration of the transient process increases. Finally with the detuning of the sets (Δ_1 or $\Delta_2 \neq 0$), then $\mathrm{Im}\,\lambda_{1,2} \neq 0$ and the transient contains damped oscillations. The theory was experimentally applied to a balanced parametric amplifier with its first set tuned to 100 Kc/s and its se-

37422

S/188/62/000/002/008/013
B154/B102

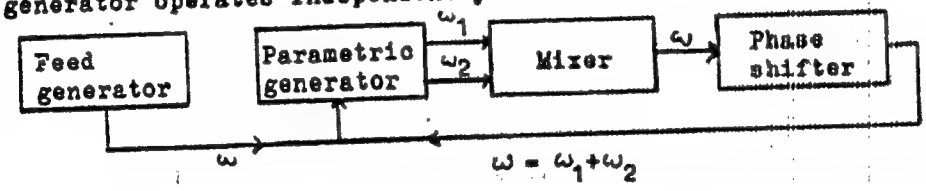
9, 2540 (2301)

AUTHOR: Il'inskiy, Yu. A.

TITLE: About a two-circuit parametric generator

PERIODICAL: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 2, 1962, 60-67

TEXT: For rational ratios ω_1/ω_2, the oscillations (frequencies ω_1 and ω_2) generated in a two-circuit generator by a frequency ω are investigated. The author first demonstrates the existence of a range in which the ratio ω_1/ω_2 is rational for $\omega_1 + \omega_2 = \omega$. In the arrangement shown the generator operates independently of an external source:



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About a two-circuit parametric ...

When the relation between the natural frequencies ω_{10} and ω_{20} of the circuits is $\omega_{20} \approx n\omega_{10}$, the oscillations can be synchronized by a single external voltage, since also the phases are related by n. The frequency of this synchronizing voltage has to be close to the natural frequency of one of the circuits. Measurements of the amplitude E_1 of the synchronizing voltage made at $\omega_{20} \approx 3\omega_{10}$ and 102.3 kc $\leq \frac{\omega_1}{2\pi} \leq$ 103.2 kc show that the frequencies ω_1 and ω_2 are synchronized ($\omega_2 = 3\omega_1$). In this case the range of synchronization virtually does not depend on E_1, because it is determined by the oscillations themselves and the oscillations essentially do not depend on the synchronizing voltage. Influences on the oscillations by the synchronizing voltage and an expansion of the synchronization band with increasing E_1 were only observed in a few cases. The investigations show that a generator with external excitation can be used as an effective frequency splitter. The band width is maximum if the quality factors of the circuits are almost equal. There are 9 figures.

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About a two-circuit parametric ... S/188/62/000/002/008/013
B154/B102

ASSOCIATION: Kafedra teorii kolebaniy, Moskovskiy universitet (Department for the Theory of Oscillations, Moscow University)

SUBMITTED: July 3, 1961

Card 3/3

IL'INSKIY, Yu.A.

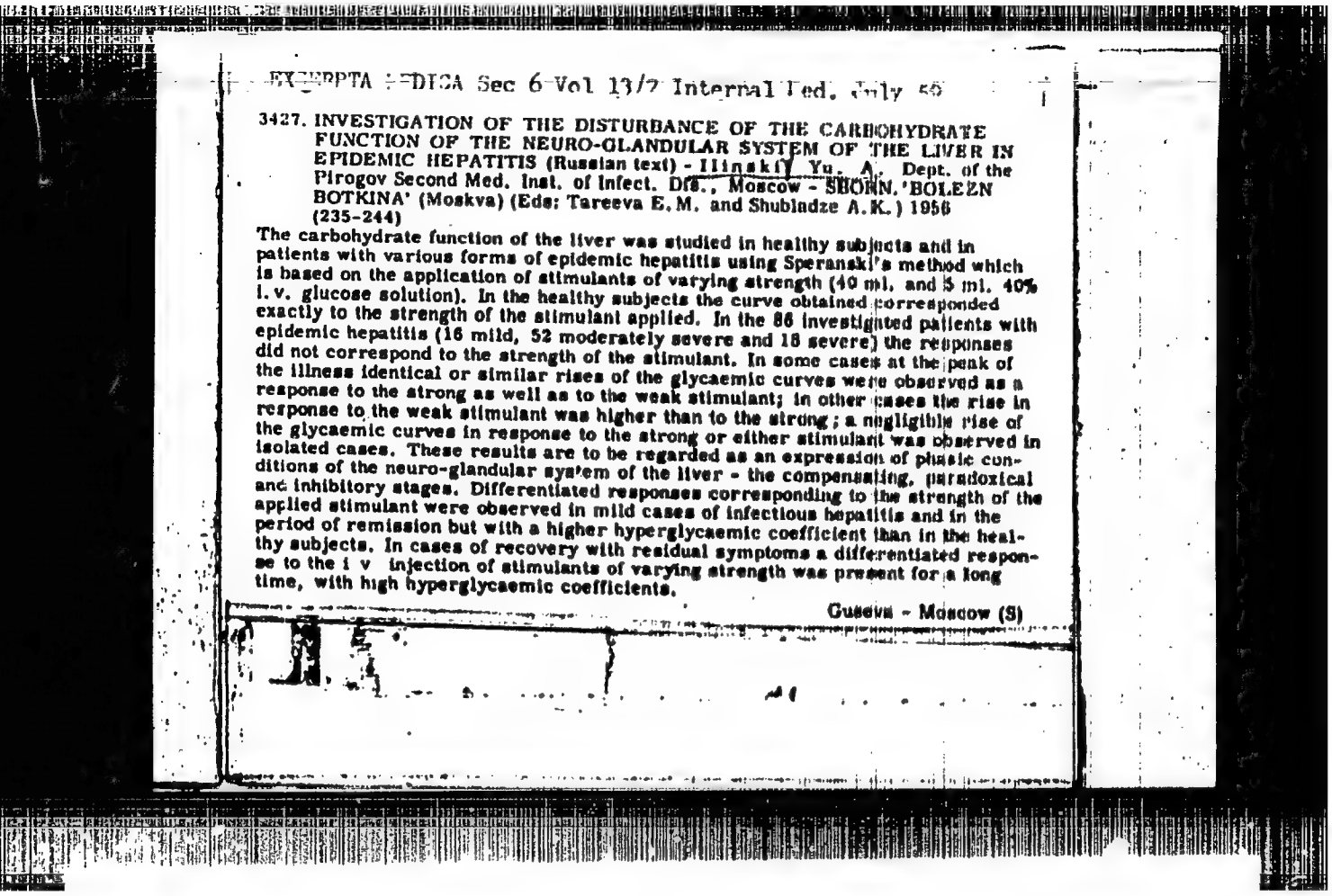
Effect of field gas processing on the efficiency of gas transportation. Gaz. delo no.7:30-33 '65. (MIRA 18:9)

1. Khar'kovskoye upravleniye magistral'nykh gazoprovodov.

IL'INSKIY, Yu.A.

Clinical aspects and therapy of protozoan colitis. Klin. med., Moskva 31 no.6:63-68 June 1953. (CIML 25:1)

1. Sixth Course Therapeutic Faculty Student. 2. Of the Clinic for Infectious Diseases (Director -- Prof. A. F. Bilibin), Second Moscow Medical Institute imeni I. V. Stalin.



EXCERPTA MEDICA Sec 6 Vol 13/7 Internal Med. July 59

3427. INVESTIGATION OF THE DISTURBANCE OF THE CARBOHYDRATE FUNCTION OF THE NEURO-GLANDULAR SYSTEM OF THE LIVER IN EPIDEMIC HEPATITIS (Russian text) - Ilinskiy Yu. A. Dept. of the Pirogov Second Med. Inst. of Infect. Dis., Moscow - SBORN. 'BOLEZN BOTKINA' (Moskva) (Eds: Tareeva E. M. and Shubladze A. K.) 1956 (235-244)

The carbohydrate function of the liver was studied in healthy subjects and in patients with various forms of epidemic hepatitis using Speranski's method which is based on the application of stimulants of varying strength (40 ml. and 5 ml. 40% i. v. glucose solution). In the healthy subjects the curve obtained corresponded exactly to the strength of the stimulant applied. In the 86 investigated patients with epidemic hepatitis (16 mild, 52 moderately severe and 18 severe) the responses did not correspond to the strength of the stimulant. In some cases at the peak of the illness identical or similar rises of the glycaemic curves were observed as a response to the strong as well as to the weak stimulant; in other cases the rise in response to the weak stimulant was higher than to the strong; a negligible rise of the glycaemic curves in response to the strong or either stimulant was observed in isolated cases. These results are to be regarded as an expression of phasic conditions of the neuro-glandular system of the liver - the compensating, paradoxical and inhibitory stages. Differentiated responses corresponding to the strength of the applied stimulant were observed in mild cases of infectious hepatitis and in the period of remission but with a higher hyperglycaemic coefficient than in the healthy subjects. In cases of recovery with residual symptoms a differentiated response to the i v injection of stimulants of varying strength was present for a long time, with high hyperglycaemic coefficients.

Guseva - Moscow (S)

USSR/Virology - Viruses of Man and Animals. E
Viruses of Hepatitis.

Abs Jour : Ref Zhur Biol., No 6, 1959, 23890

Author : Il'inskiy, Yu.A.

Inst : Moscow Medical Institute

Title : Some Colloid Reactions of the Blood in Botkin's Disease

Orig Pub : Uch. zap. 2-y Mosk. med. in-t, 1957, 7, 53-57

Abstract : No abstract.

Card 1/1

KRASNOGOLOVETS, V.N.; IL'INSKIY, Yu.A.

Colimycin and mycerin therapy of acute dysentery [with summary in English]. Antibiotiki 3 no.6:102-107 N-D '58. (MIRA 12:2)

1. Klinika infektsionnykh bolezney (zav. - chlen-korrespondent AMN SSSR prof. A.F. Bilibin) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova.
(DYSENTERY, BACILLARY, ther.
colimycin & mycerin (Rus)
(ANTIBIOTICS, ther. use,
colimycin & mycerin in dysentery (Rus))

IL'INSKIY, Yu.A. (Moskva)

Pneumonia in ornithosis. Klin.med. no.12:96-99 '61. (MIRA 15:9)

1. Iz kafedry infektsionnykh bolezney (zav. - deystvitel'nyy chlen AMN SSSR prof. A.F. Bilibin) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova.
(PNEUMONIA) (ORNITHOSIS)

IL'INSKIY, Yu.A.; MARKOVA, Ye.A. (Moskva)

Forme fruste of Botkin's disease. Klin.med. 39 no.3:46-50 Mr '61. (MIRA 14:3)

1. Iz kliniki infektsionnykh bolezney (dir. - deystvitel'nyy chlen AMN SSSR prof. A.F. Bilibin) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova.
(HEPATITIS, INFECTIOUS)

BILIBIN, A.F., prof.; IL'INSKIY, Yu.A., kand.med.nauk

Epidemiology and clinical aspects of ornithosis. Klin.med. no.3: 34-38 '62. (MIRA 15:3)

1. Deystvitel'nyy chlen AMN SSSR (for Bilibin).
(ORNITHOSIS)

BILIBIN, A.F., prof., red.; IL'INSKIY, Yu.A., red.

[Clinical problems of infectious pathology] Klinicheskie voprosy infektsionnoi patologii. Pod red. A.F.Bilibina. Moskva, Meditsina, 1965. 275 p.
(MIRA 18:12)

1. Moscow. Vtoroy meditsinskiy institut. 2. Deystvitel'nyy chlen AMN SSSR (for Bilibin).

IL'INSKIY, YU. A.

USSR/Medicine - Therapeutic Sleep, Narcosis Jul/Aug 51

"Treatment With Prolonged Sleep Brought About by Introducing Intravenously an Alcohol-Containing Solution By the Continuous Drip Method," O. V. Kerbikov, Ye. S. Zorina, Yu. A. Il'inskiy

"Nevropatol i Psikhiat" Vol XX, No 4, pp 38-40

Describes clinical aspects of treating psychopathic patients by intravenous introduction of alc and technique of introducing a narcotic mix which has the following compn: sodium chloride 4.0, calcium chloride 1.0, glucose 25.0, distilled alc 60.0-120.0, distilled water up to 500.0

198T58

IL'INSKIY, Yu. A.

KERBIKOV, O. V., ZORINA, YE. S., IL'INSKIY, YU. A.

Blood - Analysis and Chemistry

Concerning Prof. Ye. Yu. Karu's remarks "On the determination of alcohol in the blood by the Vidmark method." Zhur. nevr. i psikh. 52, no. 3, March 1952.

Monthly List of Russian Accessions, Library Of Congress, August, 1952. Unclassified.

IL'INSKIY, Yu. A.

"Clinicoexperimental Data Concerning the Development of One of the Sleep Therapy Methods (The Treatment of Psychotic Patients by Prolonged Sleep Produced by the Intravenous Drip of an Alcohol-Containing Solution)." Cand Med Sci, Moscow State Medical Inst, Moscow, 1953. (RZhBiol, No 7, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

ZHARIKOV, N.M.; IL'INSKIY, Yu.A.; KERBIKOV, O.V.; MATVEYETS, L.S.

Data on immunological reactivity in schizophrenia. Zhur.nevr. i psikh. 56 no.8:612-621 '56. (MLRA 9:11)

1. Kafedra psikhiatrii II Moskovskogo meditsinskogo instituta (zav. - prof. O.V.Kerbikov) i laboratoriya tulyaremii (zav. - prof. N.G. Oleuf'yev) Instituta epidemiologii i mikrobiologii imeni N.F.Gamalei AMN SSSR, Moskva.
(SCHIZOPHRENIA, immunology,
(Rus))

IL'INSKIY, Yu.A.

Struggle against refusal of food and emaciation in psychiatric patients. Zhur.nevr. i psikh. Supplement:91-92 '57. (MIRA 11:1)

1. Kafedra psikhiatrii (zav. - prof. O.V.Kerbikov) II Moskovskogo meditsinskogo instituta imeni I.V.Stalina.
(PSYCHOSES) (APPETITE) (ALCOHOL--THERAPEUTIC USE)

IL'INSKIY, Yu.A.

"Schizophrenia" [in English and German] by Derek Richter. Reviewed by IU.A.Il'inskii. Sov.med. 23 no.6:156-157 Je '59. (MIRA 12:9)

(SCHIZOPHRENIA) (RICHTER, DEREK)

IL'INSKIY, Yu.A.; KULIKOV, L.S.

Immunological reactivity of mental patients following therapy with aminazine, insulin, and other methods [with summary in French]. Zhur.nevr. i psikh. 59 no.2:156-159 '59. (MIRA 12:4)

1. Kafedra psikhiatrii (zav. - prof. O.V. Kerbikov) II Moskovskogo meditsinskogo instituta im. N.I. Pirogova.
(MENTAL DISORDERS, immunol.
eff. of ther. (Rus))

IL'INSKIY, Yu.A.

Allergic reactivity of patients with schizophrenia. Zhur. nevr. i psikh. 61 no.4:549-556 '61. (MIRA 14:7)

1. Kafedra psikhiatrii (zav. - prof. O.V.Kerbikov) i kafedra patologicheskoy fiziologii (zav. - prof. A.D.Ado) II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova.
(SCHIZOPHRENIA) (ALLERGY)

ILYINSKIY, Yu.A.

Changes in some allergic indices in the treatment of schizophrenia patients. Probl. sud. psikh. no.13:74-84 '62. (MIRA 18:9)

IL'INSKIY, Yu.A., kand. med. nauk

Antistaphylococcal immunity in schizophrenia. Vrach. delo no.11:
79-82 N'63 (MIRA 16:12)

1. Kafedra psikhiatrii (zav. - deystvitel'nyy chlen AMN SSSR,
prof. O.V.Kerbikov) 2-go Moskovskogo instituta.

IL'INSKIY, Yu.A.

Immunological reactivity of patients with schizophrenia during reserpine treatment. Vest. AMN SSSR 17 no.1:43-51 '62. (MIRA 15:3)

1. Iz kafedry psikhiatrii (zav. - chlen-korrespondent AMN SSSR prof. O.V. Kerbikov) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova.
(RESERPINE) (SCHIZOPHRENIA)
(IMMUNOLOGY)

SOV/78-5-1-2/45

5 (2), 5 (4)

AUTHORS: Shchukarev, S. A., Oranskaya, M. A., Tolmacheva, T. A., Il'inskiy, Yu. S.

TITLE: Thermal Dissociation of Vanadium Dichloride

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 1, pp 8 - 11 (USSR)

ABSTRACT: Publications give different data for the formation enthalpy ΔH of VCl_2. The authors report on their indirect determination of ΔH by investigation of the equilibrium of VCl_2 reduction by means of H at 750°, 775°, 800°, and 825°. The method is described in references 9,10. The experiments lasted for 100-200 hours. Table 1 shows the values of the dissociation pressure of VCl_2. Figure 1 shows the linear dependence of $\lg p_{Cl_2}$ on $\frac{1}{T}$. The computed values of the formation enthalpy ΔH and of the absolute entropy ΔS are shown in table 2. The value found for ΔH is in good agreement with that assumed by the U.S.A. Bureau of Standards. Figure 2 and table 3 show the opposite behavior of

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the dissociation enthalpy on the one hand and of the sum of the two ionization potentials and the sublimation energy on the other hand in the case of elements with the atomic numbers 21 - 30. There are 2 figures, 3 tables, and 18 references, 9 of which are Soviet.

SUBMITTED: October 27, 1958

IL'INYKH, A., insh.

Modernizing a "rondel" machine. Prom.koop. 13 no.5:12 My '59. (MIRA 12:9)

1. Oblpromsovet, g.Perm.
(Pearl button industry--Equipment and supplies)

ZIMIN, V.P.; IL'INYKH, A.F.

Automatic electrically operated ventilation door. Trudy Unipromedi no.2:174-182 '57. (MIRA 11:11)
(Mine ventilation) (Automatic control)

PETROV, I.P., dotsent; IL'INYKH, A.F., inzh.

Multichannel TU-TS system with polarity-amplitude block selection. Izv.vys.ucheb.zav.; gor.zhur. no.4:81-86 '59. (MIRA 13:5)

1. Sverdlovskiy gornyy institut imeni V.V.Vakhrusheva. Rekomendovana kafedroy gornoy elektrotekhniki.
(Mine communications)
(Remote control)
(Telemetering)

IL'INYKH, A.F., inzh.

Selection of an efficient TU-TS system for remote control of substations. Izv.vys.uchab.zav.; gor.zhur. no.3:133-138 '61. (MIRA 15:4)

1. Sverdlovskiy gornyy institut imeni V.V.Vakhrusheva; rekomendovana kafedroy obshchey elektrotekhniki Sverdlovskogo gornogo instituta.
(Mine communications) (Remote control)

ARSHINSKIY, V.M.; BAGAUTINOV, G.A.; BESPALOV, M.V.; GASPAROVICH, P.I.; GOLOMIDOV, I.N.; GOLUBOV, G.B.; GRIN, L.T.; ZEL'SKIY, S.A.; IL'INYKH, A.F.; KOZIN, V.Z.; KRYUKOV, V.P.; KULAKOV, S.N.; LUKAS, V.A.; MINEYEV, V.A.; PETROV, Yu.S.; PIRUSHKO, M.G.; PROKOF'YEV, Ye.V.; REBETS, B.A.; STARTSEV, N.V.; TROP, A.Ye., prof.; KHRAMOV, V.A.; ABRAMOV, V.I., otv. red.; PROZOROVSKAYA, V.L., tekhn. red.; BOLDYREVA, Z.A., tekhn. red.

[Handbook on electric equipment for mines] Spravochnik gorno-go elektrotekhnika. Pod obshchei red. A.E.Tropa. Moskva, Gosgortekhizdat, 1962. 400 p. (MIRA 16:5)
(Electricity in mining)

RUDNEV, D.F.; IL'INYKH, A.I.

Results of using DDT solution in diesel fuel to combat orchard pests.
Nauch.trudy Inst.ent.i fit. 6:89-91 '55. (MLRA 9:7)
(DDT (Insecticide)) (Fruit--Diseases and pests)

IL'INYKH, A.P.

Effect of ACTH and cortisone on the blood serum proteins and soluble liver proteins in experimental tuberculosis. Probl. tub. 42 no.10:69-74 '64. (MIRA 18:11)

1. Biokhimicheskaya laboratoriya (rukovoditel' - dotsent V.A. Shcherbatskaya) Sverdlovskogo nauchno-issledovatel'skogo instituta tuberkuleza (direktor - prof. I.A. Shaklein).

IL'INYKH, A.P.

Liver proteins in the development of tuberculosis in rabbits. Pat. fiziol. i eksp. terap. 8 no.1:40-43 Ja-F '64.
(MIRA 18:2)

1. Biokhimicheskaya laboratoriya "rukovoditel' V.A. Shcherbatskaya) Sverdlovskogo nauchno-issledovatel'skogo instituta tuberkuleza (dir.-prof. I.A. Shaklein) Ministerstva zdravookhraneniya RSFSR.